

# Innovative Local Economic Development Programs

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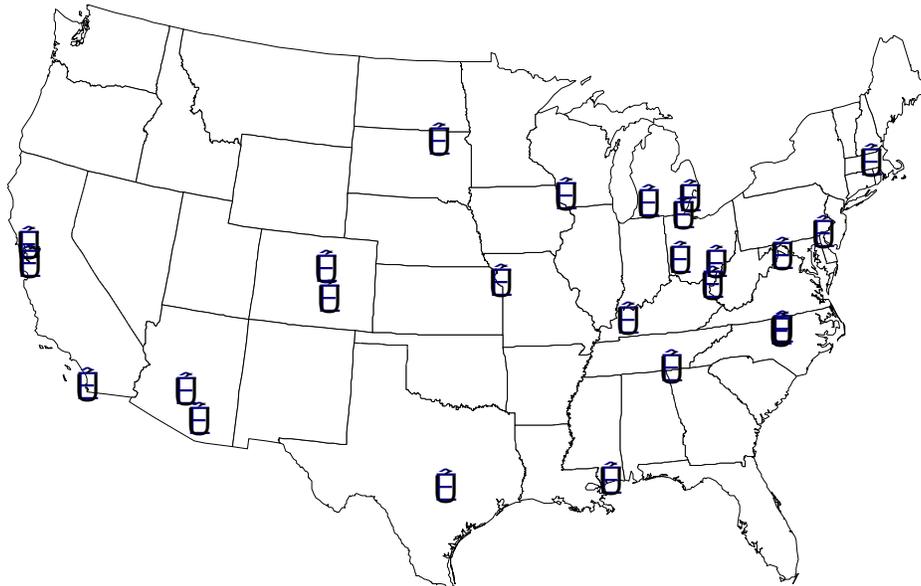
# Introduction and Case Selection

## Introduction

The present collection of 25 case studies of local economic development practices provides real-life examples of cutting-edge and innovative practices. These 25 practices were selected to represent innovations—that is, the first or early use of a practice. The objective of this project was to make these innovative practices available in a single collection for local economic development practitioners. It was hoped that this collection would help accelerate the pace and improve the quality of information-sharing about innovative local economic development practices.

The striking feature of this collection is the diversity of innovative local economic development practices from around the country. (See Figure 1 for a map of their locations.) Seven types of local economic development initiatives are represented in the collection: brownfields redevelopment, sustainable development, workforce development, responses to the new economy (economic development approaches that target technology-based industries), regional economic development, applications of new technology and the Internet, and innovative partnerships. Some of these practices involve more than one initiative area. For example, a practice may have sustainable development as its primary objective but also include a brownfields redevelopment initiative. To help practitioners more readily find the practices most relevant to their conditions, Table 1 illustrates this diversity by classifying each practice into primary and secondary initiative categories.

**Figure 1**  
**Location of Cases**



**Table 1**  
**Classification of Cases According to Type of Initiative**

<b>Case</b>	<b>Brownfields Redevelopment</b>	<b>Sustainable Development</b>	<b>Workforce development</b>	<b>Response to New Economy</b>	<b>Regional Econ. Development</b>	<b>Application of New Tech. / Internet</b>	<b>Innovative Partnerships</b>
Appalachian Center for Economic Networks (ACEnet), Athens,			s			s	P
Chattanooga: A Decentralized Approach to Sustainable Development, Chattanooga, TN	s	P					s
City of Austin Sustainable Communities Initiative, Austin, TX		P					
City of Kalamazoo Brownfield Redevelopment Initiative, Kalamazoo, MI	P					s	
City of Littleton's New Economy Program, Littleton, CO				P			
City of Vallejo Economic Development Information System (VEDIS), Vallejo, CA						P	
Civano: Sustainable Community and Economic Development, Tucson, AZ		P					s
Enterprise Toledo, Toledo, OH					s		P
Focus: HOPE Workforce Programs, Detroit, MI			P			s	s
Golden Belt Business Education Service Center, Durham, NC	P		s				s
Grant County Economic Development through the Internet, Fennimore, WI					s	P	
Huntington Industrial Center, Huntington, WV	P						
Massachusetts Biotechnology Research Park (Biotech Park), Worcester, MA				P			
National Center for Industrial Competitiveness (NCIC) Capital Fund, Dayton, OH				P			
Northland School to Career Partnership, Kansas City, MO			P				s
One-Stop Workforce System, Madisonville, KY			P		s	s	
Project Mercury, San Diego, CA				P		s	s
The Pueblo - Durango Internet Partnership, Pueblo, CO					s	P	s
Semiconductor Industry/Education Partnership (SIEP), Tempe, AZ			P	s			s
Smart Connection Center, Aberdeen, SD				P		s	
Smart Permits: A Program by the Joint Venture: Silicon Valley, Silicon Valley, CA				s	s	P	s
Southern Mississippi Planning & Development District (SMPDD) Internet Site, Gulfport, MS					s	P	
Urban Enterprise Corps, Chapel Hill, NC			P				
Wilmington Brownfields Assessment Demonstration Pilot Program, Wilmington, DE	P						
Winchester Technology Zone, Winchester, VA				P		s	

Type of initiative was assigned by the Center for Economic Development Services, Georgia Institute of Technology.

P =primary initiative area, s=secondary initiative area

# Selection, Framework, and Data Collection Methods for the Case Studies

## Case Selection

The final set of 25 innovative practices was selected from 212 potential cases obtained during fall 1998. Potential cases were identified through several different processes:

- National economic development organizations (e.g., Council for Urban Economic Development, American Economic Development Council, National Association of Development Organizations) allowed project team members to write articles soliciting potential cases that were published in member newsletters.
- Some of these national economic development organizations posted these articles to their Web sites.
- Project team members sent e-mail messages soliciting potential cases to electronic distribution lists (listservs) likely to include economic development practitioners.<sup>1</sup>
- Project team members called state economic development directors to ask for potential cases.
- Project team and advisory board members provided potential cases.
- Project team members reviewed secondary sources such as economic development journals, newsletters, Web sites, and publications.<sup>2</sup>

To determine eligibility of a practice as a case study subject, the study team first used explicit screening criteria (see Table 2.) The criteria in Table 2 resulted from project team meetings and literature on public-sector innovation and economic development strategies. The criteria in the “innovative” column represent policy initiatives and technology changes that emerged in the 1990s. The criteria in the “non-innovative” column represented traditional local economic development practices such as incentives, traditional workforce services, traditional industrial parks, and traditional infrastructure-related grant programs.<sup>3</sup> The objective of this step was to eliminate potential cases with significant or multiple non-innovative elements.

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<sup>1</sup> The listservs were: [econ-dev@csn.net](mailto:econ-dev@csn.net), [economicdev\\_discuss@accra.org](mailto:economicdev_discuss@accra.org), [NIDAList@nida.org](mailto:NIDAList@nida.org)

<sup>2</sup> Publications include: *Economic Development Review*, *Economic Development Quarterly*, *Site Selection Magazine*, and *State of the Art Practices in Economic Development for the 21<sup>st</sup> Century* (Economic Development Administration, 1999).

<sup>3</sup> See for example, Richard D. Bingham, *The Adoption of Innovation by Local Government*, (Lexington, MA: Lexington Books, 1976; Edward J. Blakely, *Planning Local Economic Development: Theory and Practice*, Newbury Park, CA: Sage 1989; Richard D. Bingham and Robert Mier (eds.) *Theories of Local Economic Development*, Sage Publications, Newbury Park, CA 1993

Fifty of the potential cases remained for further consideration. In late winter 1998-1999, telephone interviews were conducted with key informants (e.g., program managers) of these cases. Appendix A contains the protocol used in these interviews. The protocol was designed to obtain a more detailed description of the innovative and non-innovative elements listed in Table 2. These interviews resulted in an operational description of the candidate practice.

**Table 2  
Screening Criteria for Innovative Practices**

<b>Initiative Type</b>	<b>Innovative</b>	<b>Not Innovative</b>
Workforce Initiatives	School-to-work programs New training techniques, such as distance learning Electronic service provision Services from non-traditional providers	Training incentives for plant relocation Job tax credits Literacy training Basic skills training Recruitment/employment centers Services from traditional workforce providers
New Economy Enterprise Initiatives	Targeting emerging growth industries New partnerships to facilitate enterprise development Electronic service provision	Industrial incentives for relocation Targeting traditional industries Government-only initiatives or partnerships Traditional industrial parks
Brownfields Redevelopment	Brownfields redevelopment programs targeted to distressed areas Use of electronic applications Initiatives with results	Recruitment tax incentives Traditional government infrastructure grants Planning initiatives alone
Sustainable Development	Initiatives that combined economic development, environmental, and social aspects Initiatives with results	Recruitment tax incentives Traditional government infrastructure grants Planning initiatives alone
Partnerships	Regional partnerships Public-private partnerships Private-private partnerships	Single-locality, publicly run initiatives
Use of Technology	Electronic/Internet services	Labor-intensive or paper-based services
Regional Initiatives	Initiatives involving more than one jurisdiction	Single jurisdiction initiatives

The interviewer reviewed these operational descriptions and determined whether the case was worthy of selection based on the following:

- ability of the case to contribute to a diverse group of innovative practices
- ability of the informant to indicate what was innovative or distinctive about the practice
- evidence of an ongoing program

- willingness of the informant to participate in the full case-study data-collection process
- evidence of outcomes.

Although the selection of practices focused on innovations that already have shown some signs of success, a few of the cases are still in their early stages and so lack such evidence. Because none of the cases is necessarily assured of a successful, long-term future, the project team did not treat evidence of outcomes as a necessary pre-condition for including a practice.

The selection criteria used to choose the final set of cases was based on qualitative considerations rather than scoring and summing categories. Such quantitative methods were not necessary because of the large number of practices that had to come from the set of 50. Obtaining a final set was not a matter of eliminating cases; it was instead a matter of being able to obtain 25 of the 50 that met the selection criteria and could participate.

As a final observation, the case selection process was not designed to be a sampling process of any sort. As a result, any attempt to “tally” the final case studies and to make numeric comparisons among different types of experiences would be highly misleading. The main contribution has been to describe a variety of cutting-edge and innovative practices.

### Data Collection Methods and Framework for the Individual Case Studies.

These case studies were conducted by several investigators. Most of the data collection was conducted through phone, mail, and e-mail contacts—not actual site visits. This data collection method was chosen to meet the project’s time and budget restrictions. Investigators also reviewed written material (e.g., brochures, annual reports, Web sites) provided by the informants, as well as newspaper and journal articles, studies conducted by external researchers, and other forms of information.

The final set of data was used to construct individual case studies. Each case opens with an overview of the practice and a brief discussion of what was special about the practice that resulted in its selection. The “Context and History” section explains the problem that the practice was designed to solve and processes that led to the establishment of the practice. The “Organization” section discusses organizational management, staffing, partnerships, and, in some cases, the funding of the practice. The “Practice in Operation” section describes the major features of the practice and, in some cases, how it is used. Many of these cases have a “Results to Date” section that describes program outcomes based on evaluation studies or program measurement systems. All the cases conclude with a discussion of key elements that make the practice work. The cases also include key milestones and references to additional documentary material. Contact information and Web site addresses, where available, appear in Appendix B.

## Summary of Lessons Learned

Most of the lessons learned from the 25 cases deal with specific strategies directly related to the innovation. These strategies appear to differ depending upon the specific set of local conditions. The most useful cross-case observation is that (1) local innovations, to be successful, must deal with the specific local conditions confronted, and (2) a variety of strategies will work across locales.

For instance, two of the innovations had their success associated with the use of external consultants; but under similar conditions, at least one innovation had its success associated with the use of in-house capabilities instead. As another example, key sources of funding varied considerably, with local-agency support being critical in several cases but foundation or federal support being the key ingredients in others.

The innovations also were examined to see if distinctive partnering among different kinds of organizations was an important condition. Here again, no single pattern was evident. Significant citizen participation was a part of some of the innovations, but equally prevalent were those innovations apparently driven largely by single agencies or narrowly defined partnerships among two or three groups. Public-private partnerships appeared whenever economic development focused on job placement or the stimulation of local enterprises; however, many of these partnerships occurred within traditional frameworks where local economic development or planning agencies have long known to operate in concert with relevant local industries.

Although we do not know whether these practices will ultimately prove successful, the cases show that different local economic developers can pursue different strategies that reflect innovative approaches. The cases suggest that there is a remarkable range of diversity and innovation in local economic development.

# Case Studies Organized by Primary Type of Initiative

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## **Brownfields Redevelopment**

Brownfields redevelopment initiatives have become increasingly important to industrialized urban areas, arising in response to economic, health, and other threats posed by abandoned industrial property. Throughout the 1990s, the federal Economic Development Administration (EDA), Department of Housing and Urban Development (HUD), and Environmental Protection Agency (EPA) all have funded local efforts. Many industrialized urban areas are home to economically distressed communities. Brownfields redevelopments can represent the first step toward restoring once valuable community assets and creating renewed opportunities in these communities.

The four brownfields practices in this collection represent a range of brownfields redevelopment initiatives, from comprehensive city-wide efforts such as the Kalamazoo Brownfield Redevelopment Initiative (BRI) and the Wilmington Brownfields Assessment Demonstration Pilot Program to efforts focused on a particular manufacturing site such as the Golden Belt Business Education Service Center and the Huntington Industrial Center.

### **City of Kalamazoo Brownfield Redevelopment Initiative, Kalamazoo, MI**

Summary. This initiative stimulates investment in economically distressed neighborhoods by increasing the appeal of brownfields through site remediation and business incentives (tax increment financing) to redevelop property. The initiative is operated by the city's economic development and planning agency and involves advisory committees and partner organizations (other redevelopment and environmental agencies).

Lessons Learned. Many factors contributed to the success of this initiative, including partnerships with agencies having different expertise, pilot funds from the city, and management by a former environmental consultant who had relevant certifications, good connections with state and federal regulators, and knowledge of available funding.

### **Golden Belt Business Education Service Center, Durham, NC**

Summary. The combined efforts of community organizations, public agencies, and private businesses converted an old tobacco plant into a center that houses an incubator and training and social services facility. The service center is run by the local housing authority, in cooperation with the Chamber of Commerce.

Lessons Learned. A company's donation of a facility to the local housing authority made the initiative possible, although a strong coalition of community organizations, public agencies, and private businesses was required to make this donation happen. Other renovations to the facility

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still need to be financed and made, serving as a continuing challenge to the operation of the center.

## **Huntington Industrial Center, Huntington, WV**

Summary. This community-wide initiative transformed a former glass manufacturing plant with significant levels of contaminants into a center for multiple manufacturing operations. The center was created because the city could not itself purchase an industrial site. With active citizen participation and multiple sources of funding, the center subsequently redeveloped the site and leases industrial space to a variety of manufacturers.

Lessons Learned. Critical success factors include: the willingness of the city to assume the risk of purchasing and remediating the manufacturing plant; the combination of funding sources from different federal programs; and cooperation between the city and industry, galvanized by citizen participation.

## **Wilmington Brownfields Assessment Demonstration Pilot Program, Wilmington, DE**

Summary. The program, run by the city's department of planning and development, localizes the brownfields process by educating citizens and providing the resources for communities to participate in their own revival. The program also coordinates local, state, and federal brownfields efforts in the city and therefore involves collaboration with many other public agencies.

Lessons Learned. The program showed that there is a role for local initiatives to bridge the gap between existing (federal and state) brownfields programs and the local communities most affected by the remediation process. The local communities can spur change and assist in providing jobs and skills that will benefit the local economy.

# **Case Study: City of Kalamazoo Brownfield Redevelopment Initiative**

## Kalamazoo, Michigan

By Richard Tate

### **Overview**

The Kalamazoo Brownfield Redevelopment Initiative (BRI), begun in 1994, was one of the first EPA Brownfields Pilot Programs and one of the first among Michigan communities to complete a brownfields redevelopment plan. Representative of many subsequent brownfields initiatives stimulated by funding from the U.S. Environmental Protection Agency (EPA) and other state and federal agencies in the 1990s, BRI has implemented partnerships, site inventories, community outreach efforts, developer agreements, and economic development programs targeted to existing industry. One key element in the program's success was a state allowance to use tax increment financing (TIF). The TIF commits future property tax revenue growth from redevelopment for a limited period of time to repay eligible environmental testing and cleanup costs, once the city created a local Brownfield Redevelopment Authority (BRA) and a brownfields plan.

In the early stages of BRI, the city sold four properties to private-sector firms and renewed interest in industrial and commercial investment in economically distressed city neighborhoods. In addition, BRI has generated a job training and employment initiative. As a result, BRI demonstrated how brownfields initiatives can initiate and support local economic development and urban revitalization.

### **Context and History**

Kalamazoo has a large inventory of abandoned industrial and commercial properties, many of which are contaminated. As of 1998, Kalamazoo had 42 state-designated environmental hazardous waste sites, 72 leaking underground storage tank sites, and three Superfund sites.

The abandoned properties depressed Kalamazoo's tax base and limited Kalamazoo's economic development efforts. Roughly 5 percent of the city's taxable property included brownfields, many of which are located in economically distressed, minority-populated neighborhoods. By the early 1990s, Kalamazoo had almost no open land for new development other than the abandoned sites. Moreover, as recently as the early 1980s, Kalamazoo did not even have an economic development office.

The city began a small effort to clean up its environmentally contaminated sites in 1994. Several federal and state programs and state legislation accelerated the effort. State legislation passed in 1995 made clean-up standards site-specific and protected new owners from state litigation for environmental problems they did not create. In 1996, Kalamazoo was one of the first 60 communities in the nation to be designated a Brownfields Pilot Program and received an EPA grant totaling \$200,000. EPA also spent \$13.7 million on Kalamazoo brownfields cleanup. At the same time, the Michigan Department of Environmental Quality (MDEQ) committed \$6.2 million from its Cleanup and Redevelopment Fund and Site Assessment Fund to award grants and in-

kind services for local site assessment, cleanup, and redevelopment. In 1997, the state passed legislation empowering locally designated authorities to use TIFs to finance improvements such as testing and cleaning of sites included in a brownfields plan. Kalamazoo created the BRA and a brownfield plan for the entire city, so that the city could use TIFs to fund improvements and cleanup efforts for legally defined brownfields parcels.

## **Organization**

The main organizational elements of Kalamazoo's brownfields program are BRI, BRA, advisory committees, and partner organizations. BRI is located in the city's Economic Development and Planning Division and staffed by a director, a planner/projects coordinator, an environmental property assessor/redevelopment coordinator, and a business assistance specialist. BRI coordinates site preparation with other city departments. Kalamazoo's Community Development Department inspects the structural condition of buildings on brownfields sites and works to stabilize salvageable structures and to condemn those requiring of demolition. The Public Service Department removes debris, installs fencing, and furnishes ongoing maintenance.

BRA is budgeted through the city's general fund at \$500,000 in fiscal year 1999. BRA also generates revenue through tax increment financing. The board of directors of the city's Economic Development Corporation also serves as the board for the BRA. Two committees composed of BRA members, citizen volunteers, and city staff provide site development guidance to BRI. The BRI Projects Committee assesses the reuse of sites, and the Finance Committee assesses funding and makes recommendations to the BRA's board.

BRI partnered with the Coalition for Urban Redevelopment (CUR) in the EPA pilot to fund community outreach assistance. MDEQ has funded site assessments, cleanup, and related demolition activity. BRI also partnered with EPA's regional office, which provided the city with remediation assistance. The Michigan Jobs Commission and Kalamazoo Economic Development Corporation provided site and infrastructure improvement funding and business assistance incentives.

## **The Practice in Operation**

BRI initially focused on a short list of high-priority sites within its brownfields plan that were either owned by the city or selected and acquired from state tax foreclosures. City ownership allowed BRI to enter into purchase and development agreements with businesses and private developers. The agreements had legally binding requirements that the new owners invest in job-creating development compatible with the surrounding area, often within certain time limits and subject to penalties. The agreements also outlined what support and incentives the owners could expect from the city. BRI has received state approval to include 15 legally described sites in its brownfields plan and identified approximately 50 more sites for future consideration. BRI primarily used tax and job creation criteria to select these sites. The city is considering adding privately owned sites to the plan as well, although controlling the development on these sites would be more difficult than on the city-owned sites.

State, federal, and city funds pay for site remediation on a project-by-project basis. State and federal funds mostly apply to site testing, cleanup, and demolition. In some cases, city funds have covered cleanup of asbestos, lead-based paint, and other hazardous materials. The city did consider issuing TIF-funded bonds to pay for brownfields projects, but the city bond council preferred a “pay-as-you-go” method. The city set up a seed fund to cover program expenses prior to the flow of incremental taxes. After eligible expenses on a site are paid off, the BRA can continue to capture incremental taxes for five additional years. During this time, the funds can be used for eligible expenses on other brownfields sites.

BRI marketed its brownfields sites mostly to local businesses interested in expansion or relocation. BRI created an informational brochure and produced a video and television show to support its marketing efforts. Staff made community presentations, and BRI paid for market studies to determine what type of development was realistic on these sites. It created a geographic information system (GIS) and entered property information and maps of the city’s brownfields into the system. GIS enhances BRI’s marketing efforts by combining visual and textual site information.

BRI used EPA pilot funds to support CUR’s community outreach efforts. CUR organized and disseminated brownfields information at neighborhood meetings. It surveyed residents door-to-door to gauge their concerns and land use preferences for brownfields properties in the particular neighborhood, and used this information to develop long-range plans. CUR held a conference and a bus tour for realtors to generate interest in the sites. CUR also added privately owned brownfields sites to the BRI GIS system and created a Web site with property information, photographs, and maps of 19 sites redeveloped or targeted for redevelopment. The Web site also lists 17 brownfields redevelopment resources.

BRI established a policy to set aside 5 percent of the proceeds from each brownfields sale to fund employment and job readiness training for neighborhood residents. Still in its formative stages, the training has been designed as an incentive for employers at BRI sites to create jobs for nearby residents.

## **Results to Date<sup>4</sup>**

Two BRI projects have now been completed. The Alumilite Corporation expanded operations at a new office and light manufacturing facility on the former site of an abandoned century-old factory. Having outgrown its nearby leased space, Alumilite invested \$400,000 in a 10,000-square-foot building to manufacture quick-setting liquid plastic products. MacKenzies’ Bakery purchased a one-acre site for \$25,000 on a former junkyard to build a 4,000-square-foot baking facility and retail outlet. The bakery will centralize operations currently dispersed in other Kalamazoo stores. The city allocates most of the proceeds from BRI land sales to public infrastructure improvements around each site.

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<sup>4</sup> None of these projects received a federal “comfort letter.”

Also underway are more than a half dozen projects, mostly existing firms expanding or relocating operations. B. L. Harroun & Son has submitted plans for a \$1 million investment in a 24,000-square-foot commercial sprinkling systems manufacturing facility on a former rail yard that will result in 35 to 50 jobs. BRI and the Eyde Company are negotiating a \$1.5 million investment in a restaurant and six retail stores on a former riverfront power plant site. The Eyde Company and the city will build an observation deck, bikeway, and other riverfront amenities for public use. Textile Systems, Inc., a nonprofit industrial laundry service, has started building a \$6 million, 30,000-square-foot facility on a junkyard and abandoned rail site. The facility will employ 50 to 75 residents from the neighborhood. Kal-West Contracting is purchasing a 10,000-square-foot addition to an abandoned industrial building and parcel that will create some five new jobs. An indirect benefit of BRI occurred when Schupan & Sons, a local aluminum distributor and recycler, built and equipped a new 50,000-square-foot building at a cost of \$3.4 million on an access road BRI constructed to a brownfields site.

## **Conclusions**

Kalamazoo went from a small brownfields effort for cleaning up a few contaminated sites to a citywide redevelopment initiative. Brownfields regulatory changes, partnerships, mechanisms, and pilot funds were key factors in this expansion. Changes in brownfields regulations that limited liability, provided financial assistance, and supported TIF funding removed liability and financial barriers that concerned cities and businesses about investing in brownfields. Partnerships with EPA, MDEQ, and CUR provided the city with additional expertise in environmental assessment and community outreach. Mechanisms such as the brownfields plan, GIS inventory, and purchase and development agreements systematized BRI's approach to brownfields redevelopment. Pilot funds gave BRI flexibility to try new approaches such as the employment assistance program.

City funding of cleanup is uncommon among brownfields initiatives because of the size and complexity of such projects. Kalamazoo used its seed fund to fill gaps in state and federal funding sources. To oversee such complex projects, BRI employed a former environmental consultant with relevant certifications, good connections with state and federal regulators, and knowledge of what state and federal funds are available to assist brownfields projects.

Kalamazoo used brownfields remediation to encourage existing industry expansion within the city limits. Together these elements stimulated industrial and commercial investment in economically distressed parts of the city and helped to revitalize Kalamazoo's urban core.

## **Chronology of Milestones**

- 1994** Kalamazoo created its Brownfield Redevelopment Initiative.
- 1996** Kalamazoo became one of the first 60 communities in the nation to be designated a "Brownfields Pilot Program" and received a \$200,000 EPA grant.

- May 1997** City created Brownfield Redevelopment Authority and appointed board of directors of the city's Economic Development Corporation as board of directors for the new authority.
- May 1997** Groundbreaking occurred for Alumilite Corporation's new office and light manufacturing facility. This project was the first success story in the city's Brownfield Redevelopment Initiative.

### **Reference Material**

<http://www.theforum.org/cur/> is the Web site for the Forum for Kalamazoo County.

<http://www.ci.kalamazoo.mi.us/> is the Web site for the city of Kalamazoo

<http://www.ci.kalamazoo.mi.us/economic/brownfield.htm> is the Web site for Kalamazoo's brownfields initiative.

## **Case Study: Golden Belt Business Education Service Center**

### Durham, North Carolina

By Richard Tate

#### **Overview**

The Golden Belt Business Education Service Center (GBBESC) is a joint incubator and training and social services center. GBBESC revitalized a historic abandoned manufacturing plant, stimulated business growth, provided basic business training, and developed affordable office space in the most economically distressed part of Durham, North Carolina. In addition, GBBESC has integrated social and economic development services and offers them together in one location within the community. This convenience and proximity helps GBBESC more effectively reach the community.

The GBBESC demonstrates how a locale can obtain an abandoned manufacturing facility and renovate it to create economic development benefits for the community. Brown & Williamson Tobacco Company donated the 10 buildings and three parking lots on approximately 7.8 acres to the Durham Housing Authority in 1997. The center is now home to over a half dozen tenants, and has become the hub of the community's workforce and training activity. While many hurdles remain to revitalize the local economy, Durham's experience shows that communities can successfully reinvest in abandoned facilities to benefit the local economy.

#### **Context and History**

In recent years, the overall unemployment rate in Durham has hovered around 2 percent. However, in the inner city neighborhood of North East Central Durham, where the GBBESC is located, unemployment rates have ranged from 12 percent to 18 percent as major tobacco manufacturers closed their local plants. In addition to the high unemployment, the neighborhood did not have convenient access to training and other social services to prepare residents with new skills to enter the workforce.

The Brown & Williamson Tobacco Company closed its 180,000-square-foot cigarette packaging printing plant in 1996. The company tried unsuccessfully to find a buyer for the property. Brown & Williamson considered selling the property to the city at a reduced price, but "wanted to be assured that there was an infrastructure that was viable enough to keep it operating."

The Durham Housing Authority thought about renovating the plant and turning it into a center that would create jobs and furnish social services. The Housing Authority put together a coalition of social services organizations, city agencies, the neighborhood community organization, private foundations, and local civic and business leaders. The Greater Durham Chamber of Commerce approached Brown & Williamson with the idea and led negotiations with the company. The company supported the idea in part because of "the umbrella of different agencies" involved. Brown & Williamson Vice President John Jewell noted that "company officials became convinced that the community was firmly committed to collaborating to revitalize the area by

using the Golden Belt facility as a magnet and catalyst to attract capital investment and job creation.”

In October 1997, Brown & Williamson donated the complex to the Durham Housing Authority and its subsidiary, Development Ventures, Inc. Efforts to renovate the facility started in late 1997. The Durham Housing Authority hired an architect to draw up preliminary renovation plans that would maintain the building’s historic architecture while addressing issues such as lead-based paint removal. In early 1998, the facility began its first phase as a small-business incubator and job training center.

## **Organization**

The GBBESC is run by the Durham Housing Authority in cooperation with the Greater Durham Chamber of Commerce, which is responsible for marketing the site to potential incubator tenants. The educational training center is a collaborative effort between Durham Technical Community College and the Durham Literacy Council to provide general education development (GED) and adult basic education (ABE) classes.

## **The Practice in Operation**

The GBBESC has operated for a relatively short period of time, but has established working relationships among its partners to provide business recruitment and community workforce training services. The Greater Durham Chamber of Commerce focuses on bringing in tenants to GBBESC who could use Class C office space, the lowest class of office space available. GBBESC offers space at about \$7 per square foot, significantly lower than similar office space in other areas of Durham, which cost at least \$11 per square. This rate is intended to attract non-profit organizations and other businesses that want a low-cost office space and that will generate income for the facility and provide many needed social services for the surrounding neighborhood.

The Triangle Residential Options for Substance Abusers (TROSA) was one of the facilities first occupants. TROSA also provides basic facility maintenance through a “sweat equity” arrangement that covers the organization’s rent for the 30,000 square feet it occupies. Although a rehabilitation center is not in and of itself a device for attracting business, the center provides support services necessary to prepare local citizens for the workforce.

The GBBESC’s incubator has leased storage space to two heating ventilation air-conditioning (HVAC) contractors. One, Bay Mechanical, is leasing 18,000-square-feet of space and also is providing employment for 15 people, some from the local neighborhood. Three other contractors (painting, carpet, and cleaning) have each leased one of the 1,500-square-foot cubicles in the common area by the loading docks.

For center workforce services, the chamber targets companies who could employ people from the local community. In addition, Durham Technical Community College and the Durham Literacy Council have run GED and ABE classes at the center for neighborhood residents. The Durham

County Department of Social Services has two case workers on site as well, and the Employment Security Commission has set up a satellite office to help place people in jobs. Also at the center is the Work Transition Center for Women, which trains women in the WorkFirst Program who have been identified as substance abusers.

### **Results to Date**

In the GBBESC's short history, it has leased space to seven non-profit organizations, that provide valuable community development services and to five private firms that have generated local employment. The GBBESC is working to expand occupancy and entice new companies to take advantage of the center's resources and low-cost office space. In October 1998, the Greater Durham Chamber of Commerce and the Durham Housing Authority cosponsored a job fair with 23 different employers; over 500 people attended seeking employment.

Through its efforts, the GBBESC also has effected larger changes in the perceptions that businesses had of their part of Durham. In January 1999, Paragon Technologies, Inc., a contract manufacturing company, purchased abandoned property adjacent to the Golden Belt site. The new tenant provides jobs (consistent with the GBBESC's training efforts) that require less-formal academic training.

### **Conclusions**

The GBBESC has transformed an abandoned factory into an incubator and training and social services facility to address the needs of a severely distressed area of Durham. The tobacco company's donation of the facility to the Durham Housing Authority largely made this possible. Although such a gift rarely occurs, communities often house large abandoned facilities that their owners cannot sell. The GBBESC initiative suggests that with a strong coalition of community organizations, public agencies, private business—as well as a good idea about how to use the facility to benefit the community—companies may well release abandoned facilities to the community at a low or no cost.

Even with the facility donation, a community still faces renovation costs. The Durham Housing Authority's desire to maintain the building's historic architecture could prove expensive. Because the GBBESC still requires significant renovation, such as lead-based paint removal, before the facility can be put to use fully, some potential tenants may be deterred, which will slow the center's development until renovations are complete. The center's challenges are characteristic of reclamation efforts. Reclaiming historic property for the community requires a substantial commitment to renovation and upkeep to enable the facility to establish a critical mass of businesses and workers.

### **Chronology of Milestones**

<b>October 1997</b>	Brown & Williamson donated Golden Belt property to the Durham Housing Authority and its subsidiary, Development Ventures, Inc.
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- January 1998** Golden Belt Business Education Service Center opened for business, and Triangle Residential Options for Substance Abusers (TROSA) became an anchor tenant in the facility.
- March 1998** Bay Mechanical, an HVAC contractor, rented space.
- Remainder of 1998** Additional groups rented space, such as painting, carpet, and cleaning contractors; a half dozen non-profits; and another HVAC contractor
- October 1998** Durham Chamber of Commerce and Durham Housing Authority cosponsored a job fair with 23 different employers.

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## **Case Study: Huntington Industrial Center**

### Huntington, West Virginia

By Gordon Kingsley

#### **Overview**

The Huntington Industrial Center is a commercial and industrial complex that arose from a citywide effort to redevelop a brownfields site, relieve economic distress, and revitalize Huntington, West Virginia. Faced with the closing of its largest manufacturing employer, the city took the risk of purchasing and remediating the brownfields site to build a community asset, and convinced Owens-Illinois (former manufacturer at the site) to pay some of the remediation costs.

The city's actions resulted from a collective effort of the local community. The mayor and local news media led the effort, mobilizing residents to action and raising funds to invest in future growth. After three years of community organizing, the city of Huntington developed a community strategy for transforming the closed plant into the Huntington Industrial Center. The goals and recommendations delineated in this strategy went into grant proposals that raised \$5.5 million from federal, state, and local sources to purchase and renovate the plant.

#### **Context and History**

Huntington's population decreased from 84,000 in the 1960s to just 54,000 in the late 1990s, accompanied by deterioration of the central business district. By the 1980s, "the downtown was a place where one could lay down in the middle of the street during the middle of the day and not be too worried about getting hit," explained Michelle Craig, executive director of the Region II Planning and Development Council.

Owens-Illinois glass manufacturing had been a part of the city's industrial base since 1913. By the 1990s, the plant had become one of the largest manufacturing facilities in West Virginia. However, Owens-Illinois experienced financial difficulties that led to a restructuring of operations. In 1987, a \$4.4 billion leveraged buyout of the parent company, Owens-Brockway Glass, left Owens-Illinois with a high debt load. The parent company slated its Huntington plant for closure.

When the announcement came in 1993 that the 858,000-square-foot plant would close, the \$18 million payroll of the plant accounted for 2.4 percent of all the wages paid in Cabell County, West Virginia. The loss of 623 jobs was but a continuation of the departure of industry from this part of the state. The city also was concerned about the 41.8-acre site being contaminated from an underground oil tank, because the Owens plant had been operating before current environmental regulations were in place.

#### **Organization**

The Huntington Industrial Center is owned by the Huntington Municipal Development Authority (HMDA). The city created HMDA because it could not legally buy the Owens property. HMDA

acquired the plant and site for \$2 million. The acquisition was financed with \$1.4 million in Section 108 guaranteed loans and \$600,000 from community development block grants (CDBG). Site renovations were financed with \$1.5 million from the U.S. Economic Development Administration (EDA) and \$1 million from the state of West Virginia. A U.S. Department of Housing and Urban Development (HUD) Economic Development Initiative Grant of \$200,000 was used to make interest payments on the loans. To minimize the financial risk of the project, site renovation did not begin until prospective tenants had signed leases. Two of the principal lessors of the site contributed \$10 million each to renovating their respective portions of the plant.

Huntington Mayor Jean Dean led the community effort, and the state Department of Development and Planning (DDP) organized meetings and provided information. The city signed a management contract with the Huntington Area Development Council (HADCO), a private, non-profit 501(c)(3) organization, to market the center.

### **The Practice in Operation**

Huntington officials point to the plant closure as the catalyst that brought the community together to form a well-defined economic development strategy. When Owens-Illinois announced its plans, town meetings were called to build a strategy for reversing the area's economic plight. The call for these meetings was led by the executive editor of the local newspaper, *The Herald-Dispatch*, and supported by the local television channel, WSAZ-TV3, Marshall University (also located in Huntington), and business and union leaders. The first meeting was held on January 6, 1994. West Virginia Governor Gaston Caperton was invited and spoke to over 900 residents.

Stimulated by the Owens-Illinois plant closure, citizens began to identify the need for an economic development strategy. A task force was assembled to develop a short-term strategy of what to do with the plant site, such as physical redevelopment, marketing, and workforce training. Six other task forces were formed to address longer-term strategies related to business climate, government, infrastructure, tourism, vision, and education. Public officials from the city of Huntington, the Region II Planning and Development Council (an EDA development district), and the Area Development Council provided information to the task forces about existing public programs and plans and offered suggestions regarding how to approach the problems the groups identified. From these task forces came a community strategy known as "Our Jobs, Our Children, Our Future."

One objective of the short-term strategy was creation of the Huntington Industrial Center. Recommendations and goals from the task force were used in proposals to EDA, HUD, and West Virginia state government. The fact that the community was galvanized in such large numbers behind the "Our Jobs, Our Children, Our Future" strategy also boosted the willingness of the city to take the risk of purchasing the site for redevelopment. The goal was to have local government purchase the site from Owens-Brockway and sufficiently renovate it to attract new industrial tenants.

Before the development project got underway, the West Virginia Department of Environmental Protection conducted an environmental assessment of the site. The assessment found leaching contaminants. Although contamination levels did not legally warrant citation, the state designated the Owens site a pilot brownfields site and began monitoring the site's groundwater.

The West Virginia Department of Environmental Protection, the parent company Owens-Brockway, and the city entered into an agreement setting forth the procedures for environmental cleanup of the site and allocation of costs. The community convinced Owens to undertake costly site adaptations and pay for a portion of the environmental cleanup costs. Owens dismantled five large furnaces and a three-story smokestack at a cost of \$2 million. This action alone made the site more marketable. Owens-Illinois also paid for the first \$100,000 of an environmental analysis of the site and excavated a seeping underground oil tank, after the city had acquired the title.

Site renovations improved the roofs and floors and constructed new loading docks. For example, portions of the floor consisted of soft wood that dated back to an era when horses transported supplies and finished goods. These were replaced with modern industrial flooring.

The center offers several local and state incentives, including employee training. For example, the Governor's Guaranteed Workforce Program trains employees according to curricula that companies themselves select.

The closure of the Owens-Illinois plant stimulated a grassroots movement that led to Huntington's designation as a HUD Enterprise Community (EC) in December 1994. With the designation came \$3 million in Title XX Social Service Block Grant (SSBG) funds and access to EC-specific tax-exempt bond financing. These funds have been used to create a business incubator, develop an ambulatory care complex, create an entrepreneur institute, and develop the downtown riverfront. The Huntington Industrial Center is not located in the federally designated EC. However, a significant portion of the center's workforce resides within the EC and benefits from the associated services.

Success as an EC led HUD to designate Huntington and surrounding counties as an Empowerment Zone in January 1999. This makes the region eligible for \$10 million annually in federal grants for the next nine years and allows up to \$130 million in tax-exempt revenue bonds to be issued for growing businesses. Huntington plans to use the grants to improve housing, health care, and infrastructure, and to create the state's premier business and technology park.

## **Results**

Roughly 61 percent of the Huntington Industrial Center is now leased to manufacturing operations. In May 1997, SNE Enterprises, a Wisconsin-based vinyl windows manufacturer, brought 350 new jobs to the site with the potential for 200 more. SNE currently occupies 286,000 square feet of the center. HADCO currently is marketing the three remaining sites within the center. In addition, the Arbor Co. purchased 2.7 acres of open land on the site to build an assisted-living facility for 60 senior citizens.

In the 1997 progress report to HUD, a measure of Huntington's overall economic development success was the announcement that nine new companies were creating 1,700 new jobs, 450 of which were attributed to the two firms in the Huntington Industrial Center. HUD evaluations of the EC have revealed that the Huntington EC is making better-than-average progress in implementing its strategic plan, and the Owens revitalization has contributed to the city's success as an EC.

## Conclusion

City officials point to two critical elements in success of the Huntington Industrial Center. First, the city was willing to take the risk of purchasing and remediating the Owens-Illinois manufacturing plant. This was an unusually large facility for a relatively small city to absorb. Second, officials point to the combination of funding sources from several different programs in the EDA and HUD that were integrated to make the center a reality. The center also required cooperation between the city and Owens-Illinois to get the site ready for marketing, and between the city and the tenants to customize the space to their needs.

Citizen participation, galvanized by plant closures, was the key factor that made the center and the EC work. City political leaders and area economic development officials channeled community efforts into task forces. The level of community participation, coupled with assistance from city professionals, facilitated the development of the community strategic plan. Recommendations from this plan were the cornerstone of the resulting proposals and a critical factor to funding sources in their decisions to allocate grants and to HUD in their decision for EC and Empowerment Zone designations. City risk-taking, multiple funding sources, industry cooperation, and citizen participation resulted in a center and designation programs that revitalized downtown Huntington.

## Chronology of Milestones

- 1913** Owens-Illinois glass bottle manufacturing began in Huntington, West Virginia.
- 1993** Owens-Illinois announced it will shut down the plant.
- 1994** WSAZ Television 3, Marshall University, and *The Herald-Dispatch* sponsored town meeting.  
  
Six-month planning process culminated in the community strategy, "Our Jobs, Our Children, Our Future."
- 1995** HUD designated 7.3 square miles of Huntington adjacent to the Huntington Industrial Center as an Enterprise Community
- 1996** City of Huntington agreed to purchase the site.  
  
Owens-Illinois began cleanup of the site and demolition of furnaces and smokestacks.

- 1997** City of Huntington (through the Huntington Municipal Development Authority) took title to the Owens-Illinois plant
- SNE Enterprises opened manufacturing operation in the center.
- 1999** HUD designated the area comprising Huntington, West Virginia, and Ironton, Ohio, as an Empowerment Zone.

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<http://www.hud.gov/cpd/ezec/wv/echuntin.html> is the Web site describing the HUD Enterprise Community in Huntington.

# **Case Study: Wilmington Brownfields Assessment Demonstration Pilot Program**

Wilmington, Delaware

By Cathy Bouffier

## **Overview**

The Wilmington Brownfields Assessment Demonstration Pilot Program (WBADPP), established in September 1997, is an urban brownfields effort designed to drive the remediation process from within the local community. Community participation is a secondary concern of many brownfields programs that often subsidize redevelopment through grants to businesses or developers. The Wilmington, Delaware, program recognized the value of these programs, but established a complementary program to actively incorporate citizen issues throughout the planning and piloting process.

Wilmington's approach to brownfields redevelopment is a proactive response to a problem at the core of many of its economic development problems. Brownfields sites account for nearly 25 percent of the city's land and are adjacent to the city's poorest communities. As part of its efforts to address local economic and health-related issues, the city first had to revitalize these once productive economic resources. Existing federal and state brownfields programs, however, could not address Wilmington's brownfields problems with the urgency that the local economy and citizens required.

The WBADPP builds a bridge between the distressed economic communities around existing brownfields and the remediation programs. It does this by localizing the process, educating citizens, and providing the resources for communities to participate in their own revival.

## **Context and History**

Nearly one-fourth of Wilmington's land is classified as brownfields. Many of these areas are situated along the Christina and Brandywine rivers, where some of Wilmington's highest unemployment rates, lowest per capita income, and unusually high incidence of health problems are found. The abandoned brownfields sites have detracted from Wilmington's local economy as well, generating neither tax revenue nor jobs.

In the early 1990s, African-American and poor white populations, who tended to dwell near the city's brownfields, gained better representation on the Wilmington city council. The shift in representation generated a greater awareness of the problems in the riverfront area and concern for revitalizing these brownfields sites. The city investigated the state's brownfields program and found it focused primarily on funding environmental investigations and reducing the environmental liability of new owners. The city recognized the value of these programs, but found they didn't adequately address the issues these sites presented to the local community.

The city set out to bridge the gap between state and federal programs and the local community by building a program to address the health and welfare issues related to living near brownfields and to produce a redevelopment plan that included citizen participation. After three failed attempts, the city was awarded a \$200,000 U.S. Environmental Protection Agency (EPA) grant in September 1997 for a two-year program to perform several traditional brownfields functions, such as creating an inventory of sites, but also to increase neighborhood involvement and citizen education. This award was supplemented with an additional \$200,000 EPA award in 1998. These grants were administered by the city's Economic Development Coordinator. Program management will shift to a new Environmental Coordinator position in mid-1999.

## **Organization**

The WBADPP operated from Wilmington's Department of Planning and Development. It has two task forces staffed from community organizations: (1) the Environmental Action Team (EAT), which coordinates short-term activities and is charged with increasing local awareness; and (2) the Mayor's Environmental Policy Advisory Committee (EPAC), which advises on environmental policy and planning. EAT consists of the Economic Development Coordinator, the Emergency Management Coordinator, the Environmental Compliance Officer, the Plans Examiner, and the Community Organization Director. EPAC contains EAT members, the City Solicitor, the Mayor's Administrative Assistant, and the Public Safety Director.

Before initiation of the city's brownfields program, environmental issues were addressed by two city offices (the Emergency Management Coordinator in the Public Safety Office and the environmental compliance officer in the Department of Public Works), with little coordination. The institution of the environmental coordinator and the two task forces provides a central focus on brownfields remediation and facilitates inter-agency coordination.

The program also serves an important role in coordinating local, state, and federal brownfields efforts in the city. During the planning phase, the program had to involve numerous offices from the city, state and federal governments. From Wilmington, the program included the Office of Emergency Management; Office of the Administrative Assistant; Solicitor's Office; Wilmington City Council's Judiciary, Health, and Community and Economic Development Committees; the Mayor's Office of Economic Development; Department of Public Works; Licences and Inspections Department; Planning Department; and the Community Organization unit. From the state of Delaware the program has worked with the Department of Natural Resources and Environmental Control (DNREC) and the Division of Public Health. From the federal government the program has worked with the Environmental Protection Agency's (EPA) Emergency Response Team, EPA's Region III CFR 29 1910 Specialist, Community Liaison Specialist, Regional Counsel's Office, Brownfields Program Office, and the Occupational Safety and Health Administration.

## **The Practice in Operation**

In the first 18 months of its existence, the WBADPP has restructured Wilmington's organization to centralize the city's environmental activities through a single office to coordinate brownfields-related activities. Through this new office and the EAT and EPAC task forces, the city is coordinating both remediation activities and initiatives designed to increase community awareness and citizen involvement.

The program has "localized" the brownfields remediation effort by establishing a local remediation loan pool and building an inventory of local brownfields sites. By building a local loan pool, the city has more control over which sites are remediated. Such a pool allows the city to respond more directly to the input of its citizens and sidestep the bureaucracy often associated with state- or federal-level solutions.

Development of a local inventory of brownfields serves a similar purpose. The Wilmington inventory database will incorporate information from the state-maintained hazardous-waste-sites database with information from its property tax database for city-owned property. The brownfields coordinator has created a preliminary database of Wilmington's commercial, industrial, and utility-zoned property. Maintaining this information locally helps the city inform its communities, respond to requests, and allocate its resources in response to local needs.

Efforts to increase involvement by citizens most directly affected by Wilmington's brownfields sites have focused on educating citizens about the challenges and opportunities associated with brownfields remediation and identifying areas where citizens can assist in both planning and implementing remediation projects. In 1998, the city enlisted the Urban Environmental Center, a Wilmington environmental education group, to conduct free workshops for residents living near brownfields sites to educate them on relevant health and safety issues.

The program is building on its community awareness efforts to provide jobs in remediation for local unemployed people. The city and state have drafted an agreement for the city's Personnel Department and Disadvantaged Business Program to work cooperatively with Delaware's Riverfront Development Corporation.<sup>5</sup> This agreement will promote the hiring of Wilmington citizens and the use of Wilmington's disadvantaged businesses in project activities occurring in the riverfront brownfields area. It is being supplemented with efforts to disseminate information regarding redevelopment opportunities and procedures to private-sector developers to encourage reinvestment.

The program is also creating operational procedures for brownfields remediation that are easier to use and understand to encourage citizens to initiate further improvement efforts. To streamline the paperwork required for redevelopment projects, the City Solicitor hired an attorney to draft model property transfer documents and risk-control instruments that will become part of the city's revised operating procedures.

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<sup>5</sup> The Riverfront Development Corporation is a central coordinating state agency that administers the state's brownfields redevelopment plan.

## Program Outcomes

To date, the WBADPP has improved the city's approach to remediating its brownfields sites and the awareness of citizens living near these sites. Planning efforts have brought together a vast array of stakeholders and mobilized local efforts to involve citizens in the process.

Local citizens and the Wilmington city council filed petitions with the Agency for Toxic Substance Disease Registry<sup>6</sup> (ATSDR) to take action at several sites in Wilmington. Citizen complaints spurred EPA to completely fence off and isolate one Wilmington site listed by the ATSDR as "high risk, disassociate all human contact." Wilmington's program is funding DNREC in two Phase II assessments<sup>7</sup> to determine whether remediation of city-owned land is necessary before the sites can be used for (1) a Public Works Department combined sewer overflow project and (2) a swimming facility by the Parks and Recreation Department.

City officials have also responded with additional support for the program's efforts. To support the city's brownfields program, the city council enacted legislation to formally adopt a position on these environmental issues. Four ordinances were passed and signed into law: (1) a requirement for fencing and registration of hazardous wastes sites; (2) the creation of a commission for children's environmental hazard education; (3) a request for health assessments to be conducted on all hazardous waste sites in the city by the ATSDR; and (4) a requirement with every demolition permit for disclosure of information on pending environmental assessments, reviews, remediations, or voluntary compliance actions. A fifth ordinance was vetoed by the mayor, but eventually became an agreement between the mayor and the governor to provide for voluntary participation by the Riverfront Development Corporation to involve disadvantaged companies in construction projects.

The program's efforts have also resulted in improved coordination with state agencies. The city and the state DNREC have been working on information exchange policies, community notification procedures, and overall policy intent. The city has executed a Memorandum of Understanding (MOU) with the DNREC to provide background information on DNREC's obligations under its EPA agreements. The MOU will allow the city to fully utilize state-level resources and make the best use of city-level funds by creating programs to supplement those already in place.

## Conclusions

The WBADPP has found that there is a role for local initiatives to bridge the gap between existing brownfields programs and the local communities most affected by the remediation process. Wilmington's experience has shown that local communities, once involved, can spur

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<sup>6</sup> The Agency for Toxic Substance Disease Registry is housed in the Department of Health & Human Services

<sup>7</sup> A Phase II (full) assessment includes background and historical investigations and site inspection including sampling activities to identify the types and concentration of contaminants and the area of contamination to be cleaned.

change. It has also found that there are opportunities to help communities become involved more actively and to assist in providing jobs and skills that will benefit the local economy while revitalizing unproductive community assets to their former productive state.

## **Chronology of Milestones**

- September 1997** Brownfields Assessment Demonstration Pilot Program grant awarded from EPA
- September 1998** Final approval of work plan by EPA.
- August 1998** Brownfields Showcase grant awarded from EPA.
- 1998** Two task forces established: the Environmental Action Team and the Mayor's Environmental Policy Advisory Committee.
- A Memorandum of Understanding executed by Wilmington and DNREC.
- Preliminary database of brownfields created.
- DNREC and City Solicitor hired an attorney to streamline paperwork.
- Workshops held by the Urban Environmental Center (and more planned) on health and safety issues related to living near brownfields.
- February 1999** Final approval of amended work plan by EPA.
- 1999** Five pieces of legislation passed by Wilmington city council formally adopting positions on health and safety issues related to brownfields.
- May 1999** Environmental Coordinator position established in the Mayor's Economic Development Office.

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## **Sustainable Development**

The creation of the President's Council on Sustainable Development exemplifies the policy importance of sustainable development in the 1990s for integrating economic development, environmental, and social equity goals. Communities around the U.S. have designed approaches to address economic development problems from a multi-dimensional perspective. Sustainable development is a long-term approach, requiring significant planning, explicit community vision, and coordination among multiple agencies and private organizations. The cases in this collection include a community-wide centralized approach to sustainable development (Austin), a community-wide decentralized approach (Chattanooga), and an approach focused on a single development (Civano).

### **Chattanooga: Decentralized Sustainable Development, Chattanooga, TN**

Summary. This community undertook several revitalization projects in order to enhance the downtown area's economic status, reverse its reputation as the "worst-polluted city" in the country, and provide affordable housing. A goal-setting organization partnered with a non-profit, public-private development agency to purchase and redevelop downtown properties. The process involved 1700 residents, from all walks of life, to develop a shared vision and to set priorities.

Lessons Learned. Key implementation factors were: 1) traveling to other cities to learn about practices; 2) conducting a community-goal setting process, 3) developing a master plan, 4) creating a public-private development agency, 5) setting up a revolving loan fund to purchase land, 6) incorporating design standards into property deeds, 7) building a few high profile projects with early successes, and 8) getting support from city and county governments for funding and needed zoning changes.

### **City of Austin Sustainable Communities Initiative, Austin, TX**

Summary. The initiative, located in a city agency, provides information about sustainable development to other agencies, prioritizing projects and recommending them each year to the city manager and city council. The initiative brings together different city departments and area organizations and creates a common goal.

Lessons Learned. SCI found that it cannot mandate departments or community organizations to implement sustainable development. However, through its use of plans and tools, it can integrate and coordinate efforts, which helps to further Austin's sustainable development progress.

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## **Civano: Sustainable Community and Economic Development, Tucson, AZ**

Summary. This project promotes environmentally-friendly building practices while encouraging environmental technology firms in the Tucson metro region. Multiple organizations participate in this public-private partnership with long-term investment from the city and private sector. Performance standards and a policy framework that includes training, community outreach, and performance indicators contribute to the operation of this program.

Lessons Learned. A key factor in the development's implementation was its ability to obtain long-term financing from Fannie Mae. Another important factor was the city's setting of high performance standards, which reduced development costs.

# **Case Study: Chattanooga–Decentralized Approach to Sustainable Development**

## Chattanooga, Tennessee

By Jan Youtie

### **Overview**

Cities concerned with economic and community revitalization commonly employ a single strategy, organization, or demonstration project. Through a community plan and goal-setting process, the city of Chattanooga managed not just one project, but multiple projects over several decades that implemented the principles of sustainable development.

In response to a declining manufacturing base and urban deterioration during the 1970s and early 1980s, Chattanooga undertook a community-based goal-setting process under the direction of private-sector-led Chattanooga Venture. It also implemented a long-range master plan under the direction of RiverValley Partners. Together, these initiatives spawned more than 200 projects by various organizations throughout Chattanooga. Many of the projects addressed environmental, economic development, and social equity issues—the three major areas of sustainable development. For example, the Tennessee Aquarium and Riverwalk projects transformed brownfields sites into tourist attractions. The electric shuttle service emphasized clean forms of transportation. The Orange Grove Recycle Center aimed to reduce waste. Chattanooga Housing Enterprise added affordable housing stock.

Chattanooga’s experience demonstrates that cities can undertake large-scale revitalization efforts by engaging the community and identifying common goals that private, public, and non-profit community stakeholders can share and implement. These efforts were not done randomly, but rather as part of a commonly held vision. The city’s efforts also demonstrate that revitalization efforts can balance community concerns for economic growth and environmental preservation.

### **Context and History**

A city of 150,000 on the Tennessee/Georgia border, Chattanooga experienced urban decay and economic decline in the mid-1970s and 1980s. In 1969, the U.S. Environmental Protection Agency (EPA) designated Chattanooga as the “worst- polluted city” in the country in part because of unregulated emissions from the city’s heavy industrial base. The decline in Chattanooga’s industrial base, along with emission regulation, brought major pollution sources into compliance, but it hurt the downtown business district. From 1972 to 1985, the city’s manufacturing employment dropped 41 percent.<sup>8</sup> By the early 1980s, downtown Chattanooga was a dilapidated district of abandoned factories and empty warehouses.

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<sup>8</sup> U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics, Manufacturing Employment, 1970-1998.

## Organizations

Two organizations were crucial in providing common goals and a plan that unified organizations managing various projects under the theme of sustainable development—Chattanooga Venture and RiverValley Partners. Chattanooga Venture was formed in 1984 by a group of private-industry leaders that had visited several cities known for successful downtown redevelopment. Chattanooga Venture received private foundation funding to implement a community goal-setting process. Chattanooga Venture has since dissolved, but other organizations continue to employ its goal-setting process.

In 1986, the city formed what is now RiverValley Partners as a non-profit, public-private development agency to purchase and redevelop abandoned downtown properties. Private-sector foundations and financial institutions provided \$12 million, or 82 percent of the funds, with critical resources and support also coming from the city and county governments.

Table 3 shows how other major organizations were involved with Chattanooga Venture, RiverValley Partners, and subsequent sustainable development projects.

**Table 3**  
**Major Organizations Involved**

Organization Name	Function
Lyndhurst Foundation	A private foundation that provided seed money to Chattanooga Venture, RiverValley Partners, and other projects.
Riverfront/ Downtown Planning and Design Center	A non-profit, public-private partnership that developed designs for the implementation of the Tennessee Riverpark Master Plan with funding from RiverValley Partners, the city of Chattanooga, and the Lyndhurst Foundation, and students from the University of Tennessee’s Architecture College.
Chattanooga City Government	City government provides funding to RiverValley Partners and other organizations involved in sustainable development projects, and funds infrastructure for downtown improvement projects.
Chattanooga County Government	County government shares with the city government the development costs and the costs of ongoing management, maintenance, and security along the Tennessee Riverpark system
Chattanooga Area Regional Transportation Authority (CARTA)	The transit authority responsible for the electric-bus initiative, an implementation of community goals to improve transportation and reduce pollution.
Chattanooga Neighborhood Enterprise, Inc.	A private non-profit organization that addressed community goals for improved low- and moderate-income housing by renovating old downtown buildings and providing financing to residents.
Chattanooga/ Hamilton County Regional Planning Agency (RPA)	The county government agency that develops land use plans and zoning ordinances in support of sustainable initiatives and the community goal of high-quality community development.
The Chattanooga Institute	A private consulting firm that promotes sustainable development projects.

## **The Practice in Operation**

Multiple projects, operating within the framework of a shared vision, implemented sustainable development principles in Chattanooga over several decades. Two relatively concurrent initiatives established communitywide goals and a master development plan to launch these projects. In 1984, Chattanooga Venture initiated Vision 2000, “one of the first and most comprehensive communitywide goal-setting processes in the country.” Chattanooga Venture recruited 1,700 residents from all walks of life to participate in the goal-setting process. Meetings focused on easy-to-understand categories: people, places, work, play, government, and future alternatives. After 20 weeks, 40 goals were identified, many of which related to sustainable development. Task forces were formed to decide on strategies for implementing programs to reach these goals.

At about the same time, a city- and county-government-appointed task force of business and community leaders developed the Tennessee Riverpark Master Plan. Between 1982 and 1985, the task force held hundreds of meetings with citizens and hired a firm to develop the plan. RiverValley Partners implemented the plan by establishing partnerships and using initial financing to establish a revolving loan fund. RiverValley Partners purchased abandoned riverfront properties and cleaned up contaminated sites. It partnered with the Design Center, which arranged collaborations among developers, architects, and representatives from the city and county governments to create property-specific plans for projects that reflected sustainable development principles and the natural features of the river. RiverValley Partners incorporated these principles into property deeds to ensure that private developers conformed to them. The organization sold these properties to private developers and used income from the sales to develop subsequent projects.

Simultaneously, RiverValley Partners and the Design Center coordinated high-profile public projects. The Riverwalk project encouraged walking and outdoor recreation through a planned 22-mile-long park, a rowing center, and landmarks developed on a former flood way. The Tennessee Aquarium revitalized downtown and capitalized on the city’s waterway connection. It opened in 1992 as the world’s largest freshwater aquarium, adding an IMAX theater in 1996. Also in the early 1990s, Chattanooga Venture and citizens pressured city government to restore the Walnut Street Bridge connecting the Riverwalk and Aquarium to the north shore of the Tennessee River. The city committed funds earmarked for demolition to turn the structure into a pedestrian bridge. These public projects stimulated further private development of restaurants, shops, and housing. To support these projects, the city and county provided funding, planted streetscapes, upgraded utilities, and supplied maintenance and security.

Chattanooga Venture’s Vision 2000 and RiverValley Partners’ projects generated multiple additional projects in Chattanooga over several decades, most of them in sync with the vision already established. Together, these projects gave Chattanooga major components of sustainable development by (1) emphasizing clean forms of pedestrian and electric vehicle transportation, (2) reducing waste, (3) reusing abandoned facilities, (4) cleaning up brownfields, and (5) modifying zoning ordinances. For example:

- The Electric Shuttle project increased use of mass transportation and created a start-up company. The shuttle arose from the need to link the Tennessee Aquarium and the city's historic Chattanooga Choo-Choo. With no electric-bus manufacturer in the United States, the city council asked Chattanooga manufacturing executive Joe Ferguson to take this on. He started Advanced Vehicle Systems, Inc. (AVS), to build electric buses for the Chattanooga Area Regional Transportation Authority (CARTA) in 1993. CARTA constructed parking garages near the Chattanooga Choo-Choo and the Tennessee Aquarium.
- Chattanooga Neighborhood Enterprise (CNE) turned an 88-year-old rundown hotel across from the Chattanooga Choo-Choo into retail space and 36 apartments for low-income tenants with the help of city funding.<sup>9</sup> CNE followed this development with mixed-income apartments, affordable single-family homes, and an upscale townhouse development.
- The Orange Grove Recycling Center is a full-scale materials recovery facility for the city that created jobs for physically and mentally disabled workers, reduced landfill loads, and increased community awareness of recycling.
- Chattanooga/Hamilton County Business Development Center Incubator is located in an abandoned 125,000-square-foot ceramic manufacturing facility. RiverValley Partners leased the building from Hamilton County and opened the incubator in 1988. The Tennessee Valley Authority (TVA), the city of Chattanooga, the Appalachian Regional Commission, and the U.S. Economic Development Administration funded the renovation.
- The Chattanooga/Hamilton County Regional Planning Agency involved more than 2,500 county residents in a visual preference survey called Futurescape in 1996. Based on survey results, the Regional Planning Agency incorporated natural environment and human elements into zoning ordinance changes and the county's comprehensive plan
- Eastgate Town Center was designed to revitalize an old suburban mall. In the spirit of Vision 2000's community participation process, the Regional Planning Agency held a week-long public design event that produced a plan embedding a street grid through the mall to create an open-air urban town square with stores, offices, and a park.
- The Southside project targets over 650 acres of neglected downtown property owned by more than 1,000 different landholders. RiverValley Partners began the project with public focus groups and a public design event, again emphasizing citizen input. The organization addressed potential brownfields problems with a geographic information system to show prospective developers if properties require cleanup. Development projects include a football stadium, conference center, mixed-income housing, and an eco-industrial park.
- SMART Eco-Industrial Park. The Chattanooga Institute for Sustainability is spearheading the park as part of the Southside project. The prototype is built around existing industrial firms

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<sup>9</sup> CNE received \$2 million from the city in the fiscal year 1998 budget.

and institutional facilities. The major challenge is attracting enough other industrial and institutional participants so that the central recovery facility can produce enough energy.<sup>10</sup>

## Results to Date

Chattanooga Venture and RiverValley Partners tracked the results of the multi-faceted Vision 2000 and Tennessee Riverwalk Master Plan implementation. Vision 2000 fully or partially achieved 37 of its 40 goals. Chattanooga Venture revisited this process in 1992 through ReVision 2000 with even more community involvement. Additional goals and projects were developed, emphasizing the environment, education, training, and jobs.

RiverValley Partners estimated that its projects stimulated \$356 million in private retail and commercial downtown development. By the mid-1990s, rent on downtown properties rose from \$13 per square foot to \$50 per square foot. Table 4 summarizes results of RiverValley Partners-led projects and those of other organizations.

## Conclusions

For more than 10 years, multiple revitalization projects have moved Chattanooga from a deteriorating, environmentally troubled downtown to a community poised for growth. The effort was decentralized but unified by shared vision and goals. The Vision 2000 community goal-setting process and master plan implementation provided mechanisms and objectives that connected these diverse projects. Most of the major revitalization projects began with a process similar to Vision 2000's emphasis on broad community participation. These projects also supported many of the Vision 2000 goals. Likewise, the major projects included plans designed to enhance the surrounding natural environment.

The key factors in implementing sustainable development in Chattanooga were: (1) traveling to other cities to learn about downtown revitalization practices; (2) conducting a community goal-setting process; (3) developing a master plan; (4) creating a public-private development agency; (5) setting up a revolving loan fund to purchase land; (6) setting design standards and incorporating them into property deeds; (7) designing and building a few high-profile projects with early successes; and (8) getting support from city and county governments to fund maintenance, change zoning ordinances, and provide financial and staff support for projects, such as the CNE's housing restoration or Eastgate Town Center's redesign.

This implementation approach was not a quick fix for the city's problems, as the first major results from the Tennessee Aquarium came eight years after planning began. On the other hand, it provided many offsetting benefits, giving Chattanooga more widespread, longer-term, and higher-quality revitalization than if a single public or private organization had managed the process and bypassed community involvement and creativity.

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<sup>10</sup> An eco-industrial park is an industrial park where energy resources are connected and shared, and one business' wastes serve another firm as raw material, reducing costs and pollution. "A SmartPark plan for Southside?" *The Chattanooga Times*, August 1, 1998.

**Table 4  
Major Projects and Results**

<b>Project</b>	<b>Cost</b>	<b>Results</b>
Tennessee Aquarium	\$45 million (Aquarium) \$14 million (IMAX Theater) \$19.7 million (infrastructure)	1.1 million visitors a year to the Aquarium \$356 million private riverfront development Rents on downtown properties have risen from \$13 a square foot to \$50 a square foot.
Riverwalk	\$25.6 million	1998 Outstanding Planning Award, American Planning Association (Riverwalk)
Walnut Street Bridge	\$4.5 million	1995 Honor Award for Urban Design, American Institute of Architecture (Walnut Street Bridge)
Electric Shuttle and Garages	\$30.7 million	1.5 million passenger trips in 1993 and 1994 Businesses located along the shuttle route have shown significant increases in sales.
Grand Hotel and other CNE projects	\$150 million	4,481 units of housing (90 percent low-income)
Orange Grove Recycling Center		Employs 110 disabled individuals Reduced landfill loads, resells 500 tons/per month separated materials, increased community awareness
Chattanooga/Hamilton County Business Development Center Incubator	\$2.3 million	220 companies started business, 120 companies graduated, 1,400 total jobs created, \$200 million sales generated Won 1997 Business Incubator of the Year award, manufacturing and services category
Futurescape	\$100,000	Develop new comprehensive long-range plan Changed zoning ordinances to require minimal landscaping and allow small lots, open-space designs
Eastgate Town Center	\$30 million	Four service industry firms 4,000 workers Occupancy exceeding 90 percent
Southside redevelopment	\$28.5 million football stadium	Under development
SMART Park	\$150 million required	At the prototype stage

Source: RiverValley Partners.

## Chronology of Milestones

- 1982** Moccasin Bend Task Force is formed to investigate riverfront development alternatives.
- 1984** Chattanooga Venture formed.  
Vision 2000 held, resulting in 40 community goals.
- 1985** The Tennessee Riverpark Master Plan completed and presented to the community.
- March 1986** RiverCity Company formed to implement the Tennessee Riverpark Master Plan's downtown revitalization and riverfront development component.
- 1988** Miller Plaza completed.  
Ross's Landing Plan developed.
- 1989** Chattanooga passes EPA standards for air quality.
- 1990** The city of Chattanooga began implementation of the Streetscape Project to improve the look of downtown Chattanooga's streets.
- 1991** Riverfront/Downtown Planning and Design Center established.  
RiverCity established the Chattanooga Downtown Partnership.
- 1992** The Tennessee Aquarium opened  
The first electric shuttle used in downtown Chattanooga.
- 1993** The restored Walnut Street Bridge opened.
- 1994** Chattanooga Greenways partnership formed.
- Early 1995** The South Central Business District Plan released.
- 1995** The Chattanooga Institute began its Eco-Industrial Park Initiative.
- 1996** Chattanooga Strategy, an Economic Vision for Sustainable Growth created.  
Westside Community Project launched.  
Futurescape, a community planning process, completed.
- 1997** Smart Park Eco-Industrial Initiative feasibility study begins.
- April 1998** Eastgate (an older suburb) redevelopment plan finalized.

**June 1998** Chattanooga Area Regional Transportation Authority received USDOT grant.

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## **Case Study: City of Austin Sustainable Communities Initiative**

### Austin, Texas

By Richard Tate

#### **Overview**

Although many communities throughout the United States have sustainable development plans, few have been able to implement them. The city of Austin Sustainable Communities Initiative (SCI) is one of the nation's first to put sustainable development principles into action. The city established SCI in 1996 with a budget of \$90,000 to implement a sustainable development work plan. SCI's main focus is on getting city government departments to undertake sustainable development initiatives so that city government leads by example. SCI also coordinates with public and private organizations throughout the Austin area and participates in national and international sustainable development conferences to bring new ideas to Austin.

SCI used Austin's internationally recognized Green Builder Program as a model to implement the sustainable development work plan. It created tools and indicators, furnished information, and conducted education and outreach with other Austin area organizations. Major activities include developing the Capital Improvements Program Sustainability Matrix tool, which evaluates the impacts of multiple capital projects on sustainability; the community-based Sustainable Indicators Project, which is developing sustainable indicators that can influence individual and community action; and the 1998 National Smart Growth Conference, which SCI organized. SCI's coordinating role varies across these projects, although the organization typically provides planning, needs assessment, meeting facilitation, and expert review.

Instead of letting each department and community pursue sustainable development initiatives in isolation, SCI provides Austin with an integrated and coordinated sustainable development effort, in addition to ensuring plan implementation. Although SCI has no enforcement mechanisms, its ability to make suggestions and coordinate city efforts improves information sharing and reduces the costs of developing tools and approaches to implement sustainable development throughout the city. These functions are essential for a citywide initiative in a city the size of Austin, with a 1997 population of 567,566. SCI's costs are modest compared with these benefits.

#### **Context and History**

The city of Austin faced an economic slowdown during the savings-and-loan crisis of the mid- and late 1980s. Austin emerged from this economic slowdown during the early 1990s with a pent-up demand for housing while simultaneously experiencing a rapid expansion of its electronics-related industries. These two forces combined to spur rapid population growth and development in Austin and surrounding counties. In the mid-1990s, the Austin metropolitan area was growing by 100 people per day and had reached a population of more than 1 million. The population is forecast to reach 1.9 million by the year 2020. With rapid growth, however, has

come sprawl and urban fragmentation. Moreover, amid this regional growth and prosperity, the percentage of persons below the poverty level within Austin city limits has been increasing.

Concerned about these issues, the Austin city council appointed a 22-member Citizens' Planning Committee in September 1994. The committee—composed of leaders with expertise in planning, development, neighborhoods, transportation, and environmental issues—was charged with assessing Austin's planning and development process. Austin already had isolated sustainable development initiatives, the most notable one being the Green Builder Program, started in 1989 to give builders information about alternative building materials and ways to handle solid waste, energy, and water. The program won recognition at the United Nations Earth Summit in 1992.

The committee recommended a 12-point sustainable city program and presented it to the Austin city council in January 1995. These recommendations were:

- Simplify the development process with clear purpose and flexible approaches to ensure predictability, accountability, and performance.
- Coordinate the new process with a comprehensive, integrated system of neighborhood associations.
- New development should strengthen the entire community.
- Consider transportation and land use needs as equal parts of the planning and development process.
- Encourage high-quality pedestrian- and transit-friendly mixed-use development.
- Urge immediate redevelopment of downtown Austin.
- Reinvest in East Austin.
- Evaluate each project's effect on low-income neighborhoods.
- Use incentives to foster positive development and investment.
- Include environmental protection measures in development plans.
- Coordinate closely with surrounding communities.
- Implement intergovernmental planning.

With community input, the Citizens' Planning Committee developed 34 detailed action items along with a Sustainable Communities Initiative Concept and Work Plan. The final report of the Citizens Planning Committee, entitled *From Chaos to Common Ground*, was presented to the Austin city council in April 1996. In July 1996, the city council established the Sustainable Communities Initiative as a way to implement the work plan.

## **Organization**

SCI is located in the city government's Planning, Environmental and Conservation Services Department. It consists of a sustainability officer and graduate student intern. The sustainability officer was designated by the city manager to have oversight across city departments. SCI receives an annual budget of approximately \$90,000 from the city government's general fund.

SCI staff coordinate with city departments and community consortiums and partnerships, including many organizations such as the chamber of commerce, state agencies, industry

consortiums, the University of Texas, and real estate and land development groups. SCI's role takes different forms depending on the project. For example, SCI (in conjunction with the University of Texas Architecture Program and Community and Regional Planning Program) convened the initiating group, prepared meetings of the project executive committee and advisory board, trained the advisory board, and provided general organizational and strategic planning assistance for the Sustainability Indicators Project. In contrast, SCI advised the Eco-Fair Board of Directors on how to establish a green building and farming demonstration site, but did not provide hands-on assistance.

## **The Practice in Operation**

Laurence Doxsey, SCI's former sustainability officer and founder of the Green Builder Program, used his experience to design and structure SCI. For example, SCI participated in the Community Building Guidelines project to update and expand the Green Builder Program. The new guidelines were published in three volumes covering principles, specific designs and building materials, and operation and maintenance. The guidelines illustrates less costly building approaches that reduce negative environmental impacts.

Additional SCI activities fall into three areas: (1) development of sustainability indicators and tools, (2) information services provision, and (3) an educational program to raise community awareness of sustainability issues and the importance of sustainable development. The Capital Improvements Program Sustainability Matrix is a tool to help the city make better public infrastructure investment decisions. It rates multiple capital projects across 13 social, environmental, and economic criteria. Another major project is the Sustainable Indicators Project, designed to raise the awareness of sustainability issues in Austin. To progress toward the development of indicators, the project includes a survey of area residents and community forum to determine which are the best indicators to use.

SCI provides information about sustainable development to city government departments. Via the Technology Transfer Program, SCI sends those agencies memoranda on topics ranging from electric transportation and low-energy power to resource guides and federal grant information. The program facilitates the exchange of information and resources.

SCI staff have participated in educational and outreach activities. SCI helped organize the 1998 National Smart Growth Conference held in Austin. SCI also publishes a quarterly newsletter that highlights the ways Austin is addressing the Sustainable Communities Work Plan. Other educational efforts include sponsorship of a growth forum lecture series, sustainability list serves, a sustainability seminar series, and a 1999 Texas brownfields conference. SCI has developed a very detailed Web site to showcase efforts and make key documents readily accessible to the citizens of Austin and other communities or individuals interested in sustainable community activities.

SCI prioritizes projects based on feedback from other department heads and the community. It recommends projects each year to the city manager and city council. SCI also produces an annual

report for the manager and council that presents results for the preceding year's action items as well as activities proposed for the coming year.

## **Results to Date**

As of December 1998, SCI completed or was in the process of completing more than a dozen sustainable projects, and it had furnished more than 50 informational memoranda. SCI provided these services to more than 15 city departments. In 1998, SCI assessed the results of its information services and Capital Improvements Program Sustainability Matrix.

SCI conducted a survey of information services memoranda in October 1998. Of the 22 users responding, 11 took specific actions (e.g., ordered reports, passed information to someone else, wrote a newsletter article based on the information), and most users rated the service positively. The city is considering how all departments can adopt this information-sharing approach.

SCI piloted the Capital Improvements Program Sustainability Matrix with 15 public infrastructure projects. SCI found that city departments weren't as objective as they should be because they tended to rate their own projects higher than those of other departments. The pilot also suggested that Austin needed to improve user understanding of how the matrix works to reduce concerns that the selection process for infrastructure projects was political.

SCI's efforts to assess the environmental impacts of city projects does not necessarily mean that city projects actually become more environmentally sensitive. One case where such an outcome did occur is municipally run Austin Energy. SCI hosted a renewable energy conference, facilitated meetings, and prepared a report on renewable energy. Following these activities, Austin Energy issued a request for proposals to obtain energy from renewable sources.

## **Conclusions**

SCI is one of the early sustainable development initiatives to put the language of sustainability into action. It is guided by a specific plan. It employs specific tools, indicators, and projects. The city has dedicated an annual budget to the initiative and given it oversight powers across city departments. Also important is SCI's ability to bring together different city departments and Austin area organizations for a common goal. SCI's tools, information, and outreach stimulate city departments and community organizations to pursue their own sustainable initiatives. SCI's involvement helps align these initiatives with Austin's sustainable development plan.

SCI's accomplishments are attained with a modest annual budget and staff. As a result, SCI cannot mandate that departments or community organizations use tools and indicators. Nor can it control the pace of sustainable development, which is still a long-term initiative. Nevertheless, SCI improves plan implementation, which furthers Austin's progress toward sustainable development.

## Chronology of Milestones

- July 1992** Austin's Green Builder Program one of 12 local government environmental initiatives awarded at the City Earth Summit in Rio de Janeiro.
- September 1994** Austin's city council appointed a 22-member Citizens' Planning Committee to study growth issues.
- January 1995** Citizens Planning Committee presented a 12-point program to produce and sustain a livable city to the Austin city council.
- April 1996** Final report of the Citizens' Planning Committee, *From Chaos the Common Ground*, presented to the Austin city council.
- July 1996** Austin's city council selected the Sustainable Communities Initiative as a way to plan for future needs.
- October 1996** *Capital Improvement Project Evaluation: A How-To Manual* published.  
  
Original Citizens' Planning Committee officially named the Citizens' Planning and Implementation Committee.
- March 1997** The report, *A Tale of Two Futures: Building A Sustainable Community*, presented to the Austin city council.
- September 1997** *The Challenge for Austin's Future*, a final report of the Citizens' Planning and Implementation Committee published.
- October 1998** The Sustainable Energy Task Force published a report entitled *Choose Clean Energy: Establish Austin As a Leader in Sustainable Energy*.
- November 1998** *Sustainable Communities Initiative Activities Report* published.
- February 1999** Information on the Sustainability Indicators Project (SIP) added to the SCI Web site.

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### **Web Site**

<http://www.ci.austin.tx.us/sustainable/default.htm> is the Web site for the city of Austin's Sustainable Communities Initiative.

# **Case Study: Civano: Sustainable Community and Economic Development**

Tucson, Arizona

By Jan Youtie

## **Overview**

Civano was one of the first development projects in the United States to combine environmentally sound building practices, new urban design principles, and economic development goals targeting environmental technology firms. Where most such projects remain in the planning stages, Civano became a real sustainable development community with the help of investment financing.

Civano was not a short-term project. It required more than 10 years of planning. The city of Tucson, Arizona, had to provide a project manager from its Special Projects Department, make infrastructure improvements, develop performance standards, amend its master plan and zoning ordinances, conduct a builder training program in sustainable practices, promote the location to targeted businesses, and help Civano obtain financing. However, the city of Tucson benefitted from Civano by using its experience to implement a sustainable development policy for the entire municipality.

## **Context and History**

Civano was originally conceived as a solar-energy pilot project capitalizing on the year-round sunshine of the Sonoran desert. At that time, the administration of President Jimmy Carter promoted the development of alternative energy sources. Tucson builders held a Showcase of Solar Homes in 1981 attended by Arizona's then-governor Bruce Babbitt. Supportive of the showcase, the governor allocated seed money for a follow-on project known as the Tucson Solar Village in 1986.

In the late 1980s and early 1990s, there occurred a change in governorship, slower growth rate, and poor real estate market conditions. The project languished for several years. Yet changes to the city increased the need for attention to sustainable development. Tucson experienced rapid population growth of 2.6 percent a year on average from 1980 to 1985. This growth rate spawned suburban housing developments, which contributed to urban sprawl, traffic congestion, air pollution, and loss of community and connection to the desert ecosystem.

In 1988, the Tucson-Pima County Metropolitan Energy Commission received planning funds for Civano from oil overcharge funds administered by the Arizona Department of Commerce's Energy Office. The commission chose an 818-acre parcel of state trust land 15 miles southeast of downtown Tucson, for which a planning consultant prepared a master development plan. The plan included four neighborhoods, 1,145 acres, and housing for more than 2,600 families, including more than 200 homes affordable to households with less than 80 percent of the city's median income. Thirty-five percent of the land was to be set aside for open space. Also included

was a business center targeting firms involved in production or marketing of environmental technologies.

The city's appointment of John Laswick as the full-time project manager in 1994 moved Civano from the planning to the development phase. Mr. Laswick's approach to Civano was illustrated in his statement, "We want to encourage innovation by not being too prescriptive."

Mr. Laswick drew on information from national associations such as the American Association of State Highway and Transportation Officials (AASHTO) and the Urban Land Institute. He contacted planners and consultants to other community developments, including a project similar to Civano called Bamberton in Canada, and "new urbanist" developments featuring smaller lots, narrower roads, mixing residential and commercial uses, and establishment of a village center. He also borrowed energy efficiency features such as solar hot-water heaters and double-paned windows that Tucson residences had showcased.

Mr. Laswick promoted the project locally and nationally to prospective developers. To interest developers in the project, he had to demonstrate that sufficient market demand existed in Tucson for a sustainable development community. The city received funding from the Arizona Department of Commerce's Energy Office for a market study. That study, along with developer-sponsored market research, showed that most Tucson households wanted sustainable development but did not have the choice locally. Mr. Laswick eventually interested Case Enterprises and another developer, which together purchased the land at auction in July 1996.

### **Organization and Funding**

Civano was organized as a public-private partnership of the city of Tucson and the Community of Civano, LLC (Civano) and Case Enterprises Development Corporation (Case Enterprises). Ten environmental research firms, four market research firms, 15 design architects and designers, five home-building firms, and state and regional government agencies also participated in the project. The city's full-time project manager has served as a liaison between Civano and city departments.

The city invested \$3 million to support public infrastructure investments in roads and water and sewer for the first phase of Civano. The city also plans to issue \$30 million in tax-exempt bonds through municipal improvement district financing, which Civano homeowners will pay back on a monthly basis over a 25-year period. The developer paid \$2.7 million for the first 818-acre parcel of land and has an option on an additional 316 adjacent acres. Fannie Mae Corporation invested \$14.5 million in Civano through its American Communities Fund.

### **The Practice in Operation**

City and private-sector investment, establishment of performance standards, and development of a broader policy framework were key elements in Civano's implementation. Once the land was purchased, Civano required costly infrastructure construction before buildings could be erected and sold. Without investment financing to cover infrastructure costs, the project would not have become a reality. In 1998, Fannie Mae's American Communities Fund initially invested \$5.5

million and committed another \$9 million to Civano. This participation gave Civano funds to develop the village within reasonable time limits and investment return goals, while spreading the risk among more investors.

Another critical factor in Civano's development was the establishment of performance standards. Drawing from the Green Builder Program in Austin, Texas, Mr. Laswick designed a system to measure sustainable development performance. The Integrated Method of Performance and Cost Tracking (IMPACT) system, completed October 1995, set the following minimum standards for all residential and business development in Civano: (1) 50 percent lower energy use for shell and mechanical systems than the Model Energy Code; (2) 54 percent lower use of potable water; (3) 60 percent less solid waste output; (4) 40 percent fewer trip miles; (5) 20 percent of Civano's housing affordable to households with less than 80 percent of the city's median income; and (6) one job created for every two housing units. The IMPACT standards contributed to the city council's willingness to (1) adopt the agreement with Case Enterprises, (2) amend land use and zoning ordinances, and (3) make public infrastructure investments in roads and water and sewer for Civano. Based on the assumptions in the IMPACT standards, Mr. Laswick conducted a cost-benefit analysis to show savings (in reduced pollution abatement, waste, and maintenance costs), a 23 percent internal rate of return, and a six-year payback period. The cost-benefit analysis was important to building support among elected officials and departmental managers because it showed the amount of benefits the city would derive from Civano.

To make the IMPACT system useful by a broader community, the city held a training program for builders in 1997. The workshop laid out performance targets, specific requirements, implementation responsibilities, and monitoring. It ensured that builders could understand and implement the IMPACT standards.

Drawing in part on its experience with Civano, the city developed a policy framework around sustainability called the Livable Tucson Vision Program. The program began in spring 1997 with training for city department managers and community leaders, community workshops, and program performance indicators. The Livable Tucson Vision Program provided \$34 million for neighborhood improvement, downtown improvement, youth programming, and water resource projects in fiscal year 1998-99.

## **Results to Date**

As of early 1999, Phase 1 of Civano was under construction. Twenty-four homes have been sold, none of which are affordable housing. The neighborhood center is close to completion, and the development has roads and landscaping. Three companies have located in Civano: a café, a nursery that reclaims and restores desert vegetation, and a photovoltaic-materials manufacturer.

Global Solar Energy LLC (Global Solar) was the first commercial tenant in Civano. Established in May 1996 as a joint venture between Tucson Electric Power Co. (TEP)'s Advanced Energy Technology (AET) subsidiary and Denver-based ITN Energy Systems, Global Solar's Civano facility is designed to manufacture photovoltaic materials for solar energy panels for defense-related and off-grid and low-voltage energy applications.

Mr. Laswick initially introduced the Civano development to TEP executives. Global Solar signed a 10-year lease (with an option to buy) with Case Enterprises for the building, located in Civano's 65-acre Environmental Technologies Business Center. The compatibility between Global Solar's product and the sustainable development community was a key factor in site selection.

The building cost \$2 million plus an additional \$200,000 in energy-saving equipment—air conditioners that draw in outside air, daylighting fixtures, high-efficiency fluorescent lights, motion and light sensors, an evaporative cooling tower, and mirrors in building skylights that rotate to follow the sun. This equipment is expected to save Global Solar at least \$46,000 a year in reduced energy and water bills, yielding a four-year payback. Cost was not the only facility design factor. Given its proximity to residential development, the building looks more like a neighborhood restaurant than a manufacturing facility.

As of early 1999, the facility employed 14 people, mostly scientists and other photovoltaic technology specialists hired from outside Tucson, to pilot manufacturing processes. The company plans to employ 75 professionals when the manufacturing facility is fully operational. When manufacturing is at full capacity, the plant will account for 28 percent of the world's production of photovoltaic materials.

## **Conclusions**

Civano was one of the first development projects in the United States to combine modern urban design and resource efficiency features, and integrate these with economic development goals in a large-scale development. This integration meant that some compromises were made from the original Solar Village plan. For example, some cutting-edge photovoltaic technologies were not used for power generation. On the other hand, the initial plan characterized by many cul-de-sacs was modified to include multiple connecting streets in accordance with new urban design principles.

Some critics questioned whether Civano could actually integrate economic development into the sustainable community, or whether Civano would increase suburban sprawl. Civano was able to attract the Global Solar Energy facility even before the first house was built. In addition, business growth has occurred in the Tucson suburbs near Civano, including the nearby university science and technology park that houses a large IBM facility. Project planners expect some of the employees of these businesses to purchase homes in Civano.

Also important was that Civano exists as a real sustainable development community. Many of the well-known sustainable development communities, such as Canada's Bamberton, have yet to move beyond the planning stage.<sup>11</sup> The ability of the city and master developer to obtain long-term financing from Fannie Mae contributed to Civano's implementation.

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<sup>11</sup> Interview, President, Case Enterprises Development Corporation, March 18, 1999. Bamberton is a planned industrial park in British Columbia, Canada that promotes ecologically sound development.

Another distinctive feature was the city’s setting performance standards for Civano that were higher than those for previous developments. Formulating these standards helped the city understand how Civano would minimize its development costs, and helped in the design of the builder training program to ensure minimal development costs. Ultimately, the city used its experience from Civano to establish its Livable Tucson citywide sustainable development policy. This policy guides the city’s programmatic initiatives and extends sustainability principles to the entire metro region.

## **Chronology of Milestones**

- 1981** Tucson builders held a Showcase of Solar Homes, attended by Governor Bruce Babbitt.
- 1986** Governor Bruce Babbitt allocated the original seed money for the Tucson Solar Village.
- 1988** The Tucson-Pima County Metropolitan Energy Commission received planning funds for the Tucson Solar Village from the Arizona Department of Commerce Energy Office.
- October 1991** The city approved rezoning for the project, and renamed it Civano, A Model Sustainable Community.
- March 1992** The Arizona State Land Department adopted the master plan for the project.
- Late 1994** The city of Tucson appointed a full-time project manager to market the project to developers.  
  
The city received additional funding from the Arizona Department of Commerce Energy Office to obtain a new market study and current cost estimates.
- Early 1995** City sought a master developer to purchase the land from the State Land Trust.
- October 2, 1995** City council approved Civano IMPACT system, as approved by the mayor and council.
- 1996** City obtained grant from Arizona Department of Commerce Energy Office to develop the Civano Builder Program/Sustainable Design Plan Book.
- July 1996** City entered into a development agreement with The Community of Civano LLC which purchased the land from the State Land Trust for \$2.7 million.
- Spring 1997** Mayor and city council of Tucson initiated the Livable Tucson Vision Program.

- Summer 1997** Global Solar Energy completed a 31,000-square-foot manufacturing facility in Civano to produce photovoltaic solar modules.
- October-December 1997** Tucson's mayor and city council approved the final subdivision plan for the first phase of Neighborhood One.
- March 1998** Using its American Communities Fund, Fannie Mae Corporation became an equity investor in Civano.
- June 1998** Civano and the city of Tucson entered into the Civano IMPACT system Memorandum of Understanding on Implementation and Monitoring Process.
- Fall 1998** Civano began construction of 17 model homes and 20,000-square-foot neighborhood center.
- Early 1999** Staff released report of indicators for Livable Tucson Vision Program.
- April 1999** Grand opening of Civano. First phase of infrastructure will support nearly 200 homes. Design underway for next 400 lots.

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### **Web Sites**

<http://www.greenbuilder.com/institute> is the Web site for the Civano Impact System, Tucson Institute for Sustainable Communities

<http://www.civano.com> is the Civano Web site.

<http://www.ci.tucson.az.us> is the Livable Tucson Web site.

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## Workforce Development

Changing skill requirements and labor shortages in key occupational areas have made workforce development a more critical component of economic development in the 1990s. Federal legislation such as the Federal Workforce Investment Act and the School-to-Work Opportunities Act provided new policy frameworks for local economic development initiatives in the workforce development area. The cases in this collection illustrate how workforce development initiatives can use partnerships, networks, and technology to improve workforce services and create economic development opportunities.

### **Focus: HOPE Workforce Programs, Detroit, MI**

Summary. A large community development organization, with several key university, industry, and corporate partners, operates two innovative programs in manufacturing technology and information technology that train low-skilled Detroit workers in a series of progressive skills, ultimately enabling them to work in local industry. The program filled a workforce training and education void for some of the most economically distressed areas in the metropolitan area and also filled a critical shortage of skilled workers for major manufacturers.

Lessons Learned. Key lessons learned include the importance of offering integrated training (from eighth grade to college levels); the importance of integrating classroom instruction with on-the-job experience; and the need for partnerships among universities, industry associations, and corporations.

### **Northland School to Career Partnership, Kansas City, MO**

Summary. The partnership is a collaboration of a county economic development council, three school districts, and over 250 business partners. The partnership promotes training and awareness to orient students to job and career opportunities. The partnership connects business with the training and education expertise of schools.

Lessons Learned. The partnership has learned that enabling schools to understand business workforce needs is important rather than taking remedial training measures when there is a skills void or significant change in the local economy.

### **One-Stop Workforce System, Madisonville, KY**

Summary. The system brings 19 partners from local- and state-level training agencies together – linking regional partner agencies with a telecommunications network and desktop video systems – to assist both individuals and employers with employment training and workforce assistance services. The system is managed by a county economic development corporation.

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**Lessons Learned.** Management by an economic development organization, rather than one of the workforce service providers, may have helped to make the partnerships work because the organization did not infringe on any of the workforce service providers' jurisdictions.

### **Semiconductor Industry/Education Partnership (SIEP), Tempe, AZ**

**Summary.** The partnership brings together major manufacturers, industry suppliers, and area educational institutions (e.g., four community colleges) to confront the severe shortage of trained semiconductor technicians. The state's office of business and workforce development supports the partnership, which also has received substantial federal funding. Efforts are now underway to train students in the software industry.

**Lessons Learned.** The partnership's approach is most relevant to communities facing a labor shortage. Success is derived from obtaining support from leading companies and research groups, driven by the intensity of the shortage confronting industry. Other communities may want to monitor labor needs of local industries to forecast possible shortages and give training programs a chance to keep pace.

### **Urban Enterprise Corps, Chapel Hill, NC**

**Summary.** The inner-city assistance program uses masters of business administration (MBA) students to provide expertise to small, minority-owned businesses. The activity is an offshoot of a university-based MBA placement program run by a non-profit institute with major foundation funding.

**Lessons Learned.** The corps learned four important lessons from its previous service model: 1) charge for assistance; 2) make companies expose their problems so that they can be addressed; 3) have stringent qualifications for screening companies getting assistance; and 4) make sure the companies are viable.

## **Case Study: Focus: HOPE Workforce Programs**

Detroit, Michigan

By Richard Tate

### **Overview**

Focus: HOPE offers a set of integrated, progressive workforce training and education programs in an economically distressed part of Detroit, Michigan. Focus: HOPE's four programs take area residents outside the economic mainstream and train them in machining and manufacturing technologies highly desired by local industry.

Founded as a civil rights organization, Focus: HOPE began addressing workforce issues as a way to provide opportunities for residents by offering education, training, and experience in the workforce. The host of workforce programs it now operates has become a vital pipeline for industry as well. Focus: HOPE produces skilled machinists at various levels that meet industry needs. In addition, the program established four precision machining firms where advanced students can work and learn in an actual company environment where they are exposed to all facets of manufacturing.

An important element in Focus: HOPE's approach to workforce development is its alignment with both industry and the community. The programs have evolved to improve access to the neediest in the community, while also improving the supply of high-skilled labor to industry, through training. As a result, Focus: HOPE provides the crucial link between the needs of the community and industry and lays the foundation for future economic growth in the region.

### **Context and History**

Focus: HOPE is located in an economically distressed area of Detroit. The city was a center of civil disturbances in the 1960s and has a long history of poverty and unemployment. At the same time, Detroit is the heart of U.S. automotive manufacturing. Auto makers have had to cope with a shortage of trained craftsmen and an aging machinist workforce, with an average age in the mid-50s. Young adults have not been interested in manufacturing, going instead to college or into service industries. The latter, despite low wages paid by some service industry jobs compared with what precision machinists earned. Depending on compensation arrangements, precision machinists' earnings could rise well above \$50,000 and even into six figures.

Focus: HOPE sought to develop training programs to put local residents into machinist jobs. In 1981, Focus: HOPE established the Machinist Training Institute (MTI). MTI trains unemployed residents of metropolitan Detroit in state-licensed and -accredited precision machining and metalworking. MTI offers associate degrees in machining through its affiliation with local community colleges.

After several years of experience with the MTI, Focus: HOPE realized some of its students lacked sufficient academic skills and discipline to enter MTI, so it established FAST TRACK in

1989. FAST TRACK is a seven-week program that upgrades the academic skills of high school graduates to prepare them for technical training at MTI. Entrants must have at least eighth-grade reading and math skills.

In 1993, Focus: HOPE expanded its workforce training and education when it opened the Center for Advanced Technologies (CAT). CAT integrates hands-on manufacturing training and academic learning within a production setting and educates manufacturing engineer-technologists. The curriculum offers an associate's or bachelor's degree in manufacturing and engineering technology. Bachelor's degrees are from the University of Detroit Mercy and Wayne State University, and the associate's degree is from Lawrence Technological University. However, all academic work is completed at Focus: HOPE.

In the mid-1990s, Focus: HOPE undertook a survey revealing that 37 percent of individuals testing to attend Focus: HOPE training programs failed to achieve the minimum of eighth-grade reading and math required for entrance into the FAST TRACK program. In response, the organization developed the four-week First Step program to prepare and qualify students to meet enrollment prerequisites for entrance into FAST TRACK. The first course began in July 1997.

With First Step, Focus: HOPE completed development of a comprehensive, four-part continuum of workforce training and education for machining and manufacturing, one which evolved over a 15-year period. Focus: HOPE partners requested that it expand into their industry sectors. Focus: HOPE established the Information Technologies Center in 1999. The ITC will eventually be structured much like the First Step/FAST TRACK/ MTI/CAT continuum but produce information technology graduates.

## **Organization**

Focus: HOPE was originally founded as a civil rights organization. It employs about 800 people; involves more than 51,000 volunteers, participants, and contributors; and has evolved into a large community development organization. In addition to its training programs, Focus: HOPE operates auxiliary programs needed to make training successful—a Commodity Supplemental Food Program, a Center for Children, and a Community Arts Department. The workforce programs accounted for more than two-thirds of Focus: HOPE's total operating budget of \$67.5 million in fiscal year 1998-1999. This funding comes from public and private sources. The organization is run by an executive director, and each workforce program has a director, support staff, volunteers, and, in some cases, industry advisory panels.

Primarily through the Center for Advanced Technologies and the newly emerging Information Technology Center, Focus: HOPE has developed several key university, industry, and corporate partnerships. Industry and corporate partners include Cincinnati Machine, Daimler/Chrysler, Detroit Diesel Corporation, EDS, Ford Motor Company, General Motors Corporation, the American Society of Manufacturing Engineers, Hewlett Packard, Microsoft, Novell, and Oracle.

## **The Practice in Operation**

Key elements of the workforce programs include outreach, operation of the four training programs, and access to live manufacturing environments. Focus: HOPE employs full-time recruiters who make hundreds of presentations annually to Detroit area high school and community college students, teachers, counselors, and community organizations. They conduct tours of MTI and the FAST TRACK preparatory program, and have promotional exhibits and workshops at Michigan Employment Security Commission offices and at career days, youth fairs, job clubs, and trade shows. Outreach is augmented by printed materials, radio and television ads, a weekly broadcast on public radio, videos, and general media coverage.

The First Step program takes students with a minimum of a sixth-grade proficiency in mathematics and eighth-grade proficiency in reading as determined by the Test of Adult Basic Education form D/ Levels 7 or 8. Students also are required to pass a drug test. There are no residence or income limits. First Step classes begin every four weeks and are in session year round. The First Step course is four weeks, full-time (8 a.m. to 4 p.m. Monday through Friday and 8 a.m. to noon on Saturday). Each student has exclusive use of a computer for the duration of the program and receives education and training in four areas: computer-based math and reading, math concepts and problems, computer technology, and communications and career preparation. The First Step tuition is \$1,000, but student loans are available. Successful graduates are eligible to enter the FAST TRACK program or the workforce.

FAST TRACK has similar eligibility and drug-free requirements as First Step, except that applicants must perform math and reading at a minimum eighth-grade level as measured by the Test of Adult Basic Education. FAST TRACK classes begin every two weeks and are in session year round. The FAST TRACK course is seven weeks, full-time (8 a.m. to 4 p.m. Monday through Friday and 8 a.m. to noon on Saturday). FAST TRACK classes are designed to upgrade math skills by two grade levels and reading skills at least one grade level. The first three days of FAST TRACK involve orientation, testing, group assignment, and instruction in the use of personal computers and academic software. This is followed by six full weeks of classes that include communications/career preparation, exploration of engineering careers, computer-based math and reading, computer technology, a job placement seminar, and guest speakers. Each student has exclusive use of a computer for the duration of the program. The FAST TRACK tuition is \$1,700, and Focus: HOPE coordinates public and private benefits that assist in tuition payment. About 90 percent of FAST TRACK graduates go on to MTI.

MTI applicants must have a minimum of ninth-grade reading skills, 10<sup>th</sup>-grade math skills, some mechanical skills, and be drug-free. It has three components: Vestibule, Core 1, and Core 2. Vestibule runs five weeks and determines if the student is really interested and has the talent for the program. Core 1 lasts 26 weeks and provides instruction and training in basic machining, math, blueprint reading, technical drafting, computer-aided design (CAD), manufacturing theory, and communications skills. In Core 1, MTI students make their own set of tools, which saves them about \$700 when they enter the workforce. Core 2 comprises 26 weeks of advanced machining, computer numerical control (CNC), computer-aided design and manufacturing (CAD/CAM), geometric dimensioning and tolerancing, statistical process control (SPC), pre-

calculus, and communications skills. MTI classes begin every four weeks and are in session year round. Students spend four hours in the classroom and four hours in the shop, Monday through Friday 7:30 a.m. to 4 p.m. Tuition for Vestibule is \$1,500, Core 1 is \$7,750, and Core 2 is \$5,250. MTI has a 100 percent job placement rate for Core 1 and Core 2 graduates.

The CAT program employs students full-time to perform flexible machining contracts under the direction of experienced personnel. Students also spend three hours in formal study, guided by engineering mentors from the collaborating university and industry partners. Instruction is modular, including use of self-paced, computer-based training (CBT). Candidates are paid wages for manufacturing duties.

A key element of these programs is the provision of live shop-floor training in one of the four precision machining businesses established by Focus: HOPE to supply parts and services directly to automobile and other manufacturers. For example, MTI and CAT students work on production contracts at TEC Machining, Inc. TEC Machining, Inc.'s certification to the quality standards ISO-9002 and QS-9000 provide additional experiences for students in the quality area. These businesses also are a funding source for Focus: HOPE.

### Results to Date

Summary statistics of enrollment, graduates, and average starting salaries for Focus: HOPE's workforce training and education programs show that MTI has graduated almost 1,800 students since 1981, with the average starting salary for current Core 1 graduates of \$11 per hour (Table 5). FAST TRACK has graduated more than 3,600 in its 10-year history and had an FY 1997-98 enrollment of 515 students. The CAT has graduated 20 students with associate's degrees and eight with bachelor's degrees. Ninety-three students are currently enrolled in degree programs, with 300 anticipated in three years. Also, more than 180 CAT students have entered the workforce with updated skills prior to graduating.

**Table 5  
Workforce Program Summary Statistics**

<b>Program</b>	<b>Enrollment FY 97-98</b>	<b>Total Graduates</b>	<b>Average Starting Salary</b>
First Step (established 1997)	113	148*	NA
FAST TRACK (established 1989)	515	3,612	NA
MTI (established 1981)	705	1,793	\$11/hr Core 1 graduate
CAT (established 1993)	107	20 associate's degrees 8 bachelor's degrees	\$47,200 average of bachelor graduates
* includes graduates for a partial year prior to FY 1997-98.			

The Focus: HOPE Research Department conducted a study to measure the benefits of the MTI program. The resulting survey and analysis of Michigan Employment Security Commission records showed that the costs (\$17,000 in 1994 dollars per graduate) were repaid by graduates in 3.1 years through increased income taxes and FICA payments and decreased food stamps received.

## **Conclusion**

As a non-profit, public-/private partnership combining in-house resources with industry and university expertise, Focus: HOPE has filled a workforce training and education void for some of the most economically stressed areas in metropolitan Detroit. The machinist and manufacturing technology training met a critical shortage of these workers for the “Big Three” automobile manufacturers, among others. Focus: HOPE is now trying to replicate its success in the machinist/manufacturing technology training continuum with the newly formed Information Technology Center which will produce trained information technology workers.

Focus: HOPE’s workforce training and education programs have been innovative in many ways. First, the program has demonstrated flexibility in its ability to learn from experience over more than a decade and fashion a machinist and manufacturing training curriculum beginning with students testing at the eighth-grade level and culminating in college degrees. Second, Focus: HOPE has applied an innovative training model that integrates classroom instruction with on-the-job experience, employing technologies that manufacturers specifically use in their shop floor operations. Third, Focus: HOPE has been innovative in providing its training through partnerships with universities (local and national), industry associations, and corporations (local and national).

## **Chronology of Milestones**

- 1968** Focus: HOPE founded by Father William T. Cunningham and Executive Director Eleanor M. Josaitis.
- 1971** Focus: HOPE started its first major project, the Food Prescription Program.
- 1981** The Machinist Training Institute established to provide state-licensed and accredited training in precision machining and metalworking.
- 1989** FAST TRACK established
- 1993** The Center for Advanced Technologies (CAT) opened.
- July 1997** First Step established.
- November 1997** Center for Advanced Technologies received QS-9000 certification.
- June 1998** Focus: HOPE received Computerworld/Smithsonian Award’s highest distinction for innovation in the governmental/non-profit sector.

**1998-99** Focus: HOPE began formalizing the Information Technology Center, which will eventually be structured like the continuum of MTI through CAT but produce information technology graduates.

### **Reference Material**

*Measuring the Net Benefits of Focus: HOPE's Machinist Training Institute Program*, by John F. Sase, MBA, Ph.D., Research and Process Assessment, Machinist Training Institute, 1995.

Various materials faxed with no dates covering the Information Technology Center, MTI 1997 Entrant/Outcome Report, Center for Advanced Technologies, FAST TRACK, and First Step.

### **Web Site**

[http://www.focushope.edu/html/home\\_menu.html](http://www.focushope.edu/html/home_menu.html) is the Focus: HOPE Web site

## **Case Study: Northland School-to-Center Partnership**

### Kansas City, Missouri

By Richard Tate

#### **Overview**

Northland School-to-Career Partnership (NSTCP) in Kansas City, Missouri, is a collaboration of the Platte County Economic Development Council (PCEDC) and three school districts in the Northland area of metropolitan Kansas City. It is one of the few school-to-career partnerships in the country led by an economic development organization. The PCEDC's leadership provides an industry-focused approach that often eludes similar education-based partnerships designed to produce well-trained workers.

The NSTCP was developed to help prepare students by expanding classroom opportunities to obtain first-hand awareness of the knowledge, skills, educational requirements, and attitudes necessary for various occupations. The primary economic development goal of NSTCP is to focus educational institutions on specific industries so that students get more specialized skills.

#### **Context and History**

Like many metropolitan areas in the country, the Northland area of Kansas City has had unemployment rates at or below 2 percent over the last several years. In its annual survey of community business and industry, PCEDC staff consistently find that the supply of skilled labor is a constraint on development.

According to the federal Bureau of Labor Statistics, the nation spends \$50.6 billion annually on upgrading workforce skills through training. The PCEDC infers from this figure that it costs local companies a significant amount to train each new employee. In response, the PCEDC became more involved in workforce issues to facilitate the expansion and retention of existing businesses.

In the summer of 1997, the PCEDC was approached by the Northland Career Center and the North Kansas City School District about leading a school-to-career partnership program. Leading a kindergarten-through-12th-grade (K-12) education program was a very different approach to economic development and one the PCEDC had not considered before. However, the approach did seem to fit the workforce-related needs expressed by local businesses.

From mid-summer through early fall 1997, the PCEDC and its board of directors evaluated the proposal and decided to lead the partnership. The PCEDC and three school districts in the Northland region (North Kansas City, Park Hill and Platte County R-III) prepared a grant application to secure federal funds from the U.S. Department of Education through the School to Work Opportunities Act of 1994. In January 1998, NSTCP received the grant award.

## **Organization**

The Northland School-to-Career Partnership (NSTCP) is a collaboration of the PCEDC and three schools districts in the Northland area of metropolitan Kansas City: North Kansas City, Park Hill, and Platte County R-III.

The PCEDC serves as the management and fiscal agent for the partnership, with implementation through the three collaborating school districts. The partnership coordinator and assistant coordinator implement the system under the direction of the PCEDC executive director and board. PCEDC employees and the system implementation are part of the PCEDC's plan of work. The partnership relies on the participation and support of teachers, businesses, and students and their families to implement the program.

NSTCP has a separate budget and was funded for four years beginning in 1998 through a federal grant (managed by the state of Missouri's Community Career System). The initial funding was for \$222,000 but decreases 25 percent each year to encourage local sustainability efforts for the partnership. The PCEDC's goal is to build participation in the NSTCP and make it a sustainable component of Northland workforce training and to measure its success both in terms of raw numbers and image in the community.

In addition to the PCEDC leadership and collaborative school systems, the partnership currently includes more than 250 Northland businesses as well as area technical and vocational schools, local government agencies, parents, teachers, and students. The NSTCP business partners include major corporations such as Ford Motor Company, Harley-Davidson, ADT Security Systems, Sprint, and Citibank. One NSTCP objective is to continue expanding the number of business participants.

## **The Practice in Operation**

The NSTCP creates awareness of the program by making on-site presentations at schools and businesses, sponsoring workshops, and speaking at luncheons. The NSTCP also has developed a Web site to promote and explain the partnership and to provide links to the collaborating school districts as well as the National Employers Leadership Council, the National School-to-Work Learning and Information Center, and The Learning Exchange (a national center for educational consulting, training, research, and hands-on learning experiences).

Employers participate in the partnership at various levels, from speaking in the classroom to sponsoring internships for students or externships for teachers. Educators participate by more closely tying academic subjects to their relevance in the real-world businesses that students are exposed to by the program. Educators may also participate in educator externships where teachers work directly with a business, thus experiencing firsthand, and making the connection between, school-based and work-based training. In addition, educators and employers work together to develop projects and work teams that reflect today's work environment. Such projects reinforce the messages sent through other efforts and teach students to value their own skills as well as those of their peers.

Educators can contact the NSTCP to participate in the program or may go through their district's school-to-work coordinator or "A+" coordinator. Missouri provides this designation to school districts that meet certain criteria and levels of activities. All three districts in the NSTCP have "A+" designation by the state. While there are no formal requirements for the school systems' participation in the NSTCP, school-to-career activities do help meet requirements for their "A+" designation.

The NSTCP work plan includes activities for all ages, K-12+. Starting in the elementary grades, teachers, parents, and businesses work together to make students aware of different career opportunities. Exercises are designed to familiarize students with the occupations of their parents and others within the local community. Reading books, doing projects, going on field trips, and having speakers come into the classroom are all ways that NSTCP promotes career awareness among students at an early age.

In the middle-school years, more emphasis is placed on exploring different aspects of career paths. The program focuses on what education and training are necessary to prepare students for certain career fields. Again, speakers, field trips, and projects expose the students to all the options available to them through education and experience.

The high school years are the culmination of the school-to-career system. Students work with counselors, parents, and teachers to map out a plan to guide them through a curriculum over the next four years. This method does not trap students into studying one particular field, but instead guides them in a direction they choose to explore. Students may change their focus of study at any time.

During their senior year, students are encouraged to do internships with local businesses so that they can experience firsthand what it takes in any given field to be competitive. Partner employers play a mentoring role at this point, showing students how to apply the knowledge they have gained over the course of the program.

### **Status to Date**

Because the program has been operating with funding for less than a year, there are no long-term results about graduating students' job placement rates or sponsoring firms' ability to find more skilled workers. In this early phase, the NSTCP has focused on hosting school-to-career activities that bring together the diverse expertise of its partners. NSTCP convened functional teams in each of its target sectors to address issues relating to preparing students for careers in each business sector.

NSTCP representatives have given presentations to educator groups, teachers in-service, administrators, and school boards, and cohosted U.S. Secretary of Education Richard Riley for a breakfast and program for over 400 attendees. NSTCP also hosted a school-to-careers luncheon for over 200 business people and educators. In addition, NSTCP has compiled a database of more than 250 volunteer employer speakers.

NSTCP has raised student and parent awareness through activities reaching more than 3,000 people with school-to-career information. NSTCP coordinated a Freshman Career Expo, Junior Career Tours, Career Fairs, and several Career Days, placing speakers in the classroom and placing job shadows<sup>12</sup>, thus reaching over 4,000 students. The NSTCP also sponsored teachers for a curriculum workshop, and presented the first School-to-Career Awards to an administrator, counselor, student, and two businesses.

## Conclusions

The NSTCP forges a partnership that takes advantage of the economic development organization's relationship with businesses and connects that with the training and education expertise of the schools. Economic development organizations are well-connected to businesses and acutely aware of workforce issues, but they are not typically involved in workforce training. On the other hand, schools are typically not well-connected to businesses, but are primarily responsible for training students to enter the workforce. While there is a danger that the schools may become too influenced by business, enabling schools to understand business workforce needs is important.

The NSTCP uses a systems approach of involving schools, students, parents, and prospective employers in developing the future workforce, beginning in the earliest school years. This contrasts with the traditional economic development role of taking remedial training measures when there is a skills void or significant change in the local economy, often when students have already graduated from high school or college. Although the school-to-career approach is making decisions about future workforce skills based on responses to current business needs, it nevertheless represents an effort to address local business employment needs proactively over the long term.

## Chronology of Milestones

- |                                |  |
|--------------------------------|--|
| <b>1994</b>                    | School-to-Work Opportunities Act passed, making federal funds available to states for workforce programs.  |
| <b>Summer 1997</b>             | Platte County Economic Development Council approached by the Northland Career Center and the North Kansas City School District about leading a school-to-career partnership program. |
| <b>Mid-Summer to Fall 1997</b> | Platte County Economic Development Council evaluated proposal and decided to pursue partnership lead.  |
| <b>Fall 1997</b>               | Grant application process began to secure funds from School-to-Work Opportunities Act.   |

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<sup>12</sup> Job shadowing is a popular work-based learning activity. It provides students with opportunities to gather information on a wide variety of career possibilities before deciding where they want to focus their attention. Job shadows involve brief student visits to a variety of workplaces, during which time students "shadow," observe, and ask questions of individual workers.

**January 1998** Grant awarded to start Northland School-to-Career Partnership.

**April 1998** Platte County Economic Development Council received funds from state of Missouri to fund the actual operating budget for NSTCP.

### **Reference Material**

Interviews with Mr. Pete Fullerton and Ms. Alicia Stephens, March 23, 1999.

“Northland School-to-Career Partnership” (retrieved from Web site).

### **Web Site**

<http://www.plattecountyedc.com> is the Web site for the Platte County Economic Development Council

## **Case Study: One-Stop Workforce System**

### Madisonville, Kentucky

By Alfie Meek

#### **Overview: One-Stop Workforce System**

The One-Stop Workforce System in Madisonville, Kentucky, brings partners from local and state-level training agencies together to assist both individuals and employers with employment training and services. The system includes the One-Stop Career Center located in a leading-edge communications and training facility; the Madisonville Technology Economic Center (MTEC); and satellite offices serving Crittenden, Caldwell, Hopkins, Muhlenberg, Lyon, and Livingston counties. The center is designed to house workforce assistance providers in Madisonville (where many of the region's providers are located) and to offer larger-scale training events. The satellite centers are designed to offer convenient access to workforce assistance throughout the region.

Unlike many one-stop workforce systems throughout the United States, the Madisonville system links regional partner agencies with a telecommunications network and desktop video systems, providing partners and clients direct contact with various support organizations for training and other services without leaving the facility. Through its use of partnerships and telecommunications and computing technologies, the One-Stop Workforce System makes it easier for clients to obtain workforce assistance. This system has used regional partnering and telecommunications technologies to improve responsiveness to businesses' workforce needs and the coordination of services, such as education and training programs, financial aid opportunities, job search assistance, referral to apprenticeship programs, and assistance with a career development plan.

#### **Context and History**

Madisonville-Hopkins County is located in rural western Kentucky, approximately 200 miles west of Lexington. After the 1991-92 recession, the Hopkins County economy slowed, and by 1994 the unemployment rate in Hopkins County had reached an alarming 9 percent. Employment in the coal mining industry fell from a peak of 3,000 to 900. One major reason for the industry's decline was that the type of coal mined in western Kentucky had a high sulphur content. As air pollution regulations were tightened nationally, this made Kentucky coal less desirable than low-sulphur coal mined in the western United States. In addition to the declining coal industry, Goodyear and York Heating and Air closed major manufacturing plants in 1991 and 1992, which combined to lay off approximately 800 people.

The Madisonville-Hopkins County Economic Development Corporation (MHCEDC) originally planned for a back-office training facility that would support business recruitment efforts. However, federal funding helped the MHCEDC broaden the scope of the MTEC to a true one-stop training center. The Federal Workforce Investment Act of 1998 and a \$3.3 million grant from the U.S. Department of Labor prompted Kentucky to establish a One-Stop Workforce System to transform "the current fragmented collection of federal, state, and local job training

and employment programs into a coherent system” and “enable clients to successfully navigate through an increasingly complex and demanding labor market.”<sup>13</sup> Kentucky chose to implement this system throughout its 22 Labor Market Districts.

MHCEDC leadership decided to design the system based on regional partnerships and technology infrastructure. MHCEDC organized partners based on the needs of existing businesses and industries and on the site-selection criteria for industrial prospects, as indicated by requests for information from these sources about local labor force. With participation of proposed partners, a facility in the Madisonville Industrial Park was identified and the space restructured by expanding the flexible manufacturing training area to 4,000 square feet, increasing the load capacity of the floor, and installing an overhead door so large manufacturing equipment could be brought in for hands-on training. The remainder of the building was divided into office space and training rooms, including two videoconference rooms.

The U.S. Economic Development Administration (EDA) approved a \$504,000 grant for the construction of MTEC. When the restructured plans were complete, the architectural bids came in higher than initial estimates. To complete the center, EDA provided a second grant of approximately \$388,000, with additional funds provided by the city of Madisonville and a loan from local banks. The Kentucky Community and Technical College System agreed to lease half of the space (10,000 square feet), including the 4,000-square-foot flexible manufacturing training area, for five years. This lease has provided revenue for a portion of the debt service for construction loans secured by the city of Madisonville.

Advanced telecommunications infrastructure was a key element of the One-Stop Workforce System. BellSouth had an existing fiber backbone in the region. It contributed money and technical in-kind services to provide remote offices and MTEC with T-1<sup>14</sup> connections .

MTEC opened on October 29, 1996. Only 13 days earlier, the Kentucky Workforce Partnership Council made a grant award of \$250,000 for a One-Stop Career Center, located at MTEC. Over the next two years, new partners continued to add equipment and network infrastructure.

## **Organization**

Nineteen different organizations are partners in the One-Stop Workforce System. Several partners have representatives located at the One-Stop Career Center. These include the state Department of Adult Education; the Department of Employment Services; the Department of the Blind; the Department of Vocational Rehabilitation, Green Thumb, Inc.; Job Training Partnership Act; Kentucky Farmworkers Programs, Inc.; and the Kentucky Community and Technical College System. The One-Stop Workforce System is managed by MHCEDC, which has a full-time president and executive assistant and is governed by a 10-member board of directors.

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<sup>13</sup> The Workforce Investment Act of 1998 replaced the Job Training Partnership Act.

<sup>14</sup> A T-1 telecommunications connection supports data rates of 1.544Mbits per second.

Other partners are connected either through the satellite offices or through desktop video systems at their offices. The satellite offices operate in various locations within the labor market area. This enables clients throughout the labor market area to access the resources of the One-Stop Career Center without having to travel to the main location in Madisonville or to multiple offices in the region.

### **The Practice in Operation**

The One-Stop Workforce System provides individual and business clients access to services and resources relating to workforce development within a networked system. Basic services include labor market and career option information, education and training programs, and financial aid opportunities; job search assistance; referral to apprenticeship programs; assessment of skills and interests; and assistance with career development plans, as well as other career services. In addition, the center offers its “rapid response” service to employees of companies that have decided to downsize. This service incorporates screening and testing of laid-off workers so that either training programs and/or current job openings can be recommended.

An individual or business in a remote part of the region can access most of these services (except for certain types of training requiring hands-on equipment operations or large-scale participant interactions) at a satellite office. Clients at a satellite office can also interact directly with professionals at MTEC through the desktop video system, and even take distance training courses without traveling to Madisonville.

Most large-scale training is held at MTEC’s 4,000-square-foot flexible manufacturing training area. Local employers can bring equipment to MTEC to train workers. MTEC also has two flexible classroom spaces, a computer lab with 20 state-of-the-art computers, two video conference rooms, a projection room, and an assessment center. The entire center is served by a T-1 loop line which provides high-speed network and Internet access.

To enhance its workforce information databases, the One-Stop Workforce System added a skills bank to register the un- and underemployed via 50,000 surveys distributed throughout the six-county labor market area in 1998. This skills bank database provides information that helps bridge the gap between the needs of the labor force and the needs of new and existing industries.

The One-Stop Workforce System is promoted throughout the region through several different avenues. The press has reported on the system, and MHCEDC has advertised in the local paper and on radio and television. In addition, when clients contact one of the partner organizations for assistance, they receive information about the One-Stop Workforce System. The system also is promoted locally through social organizations such as schools, Lions Clubs, and Kiwanis.

### **Results to Date**

In 1998, more than 15 private companies used the center for training. These firms included Raytheon, Sun Chemical, Ensign Bickford, Freudenberg Nonwoven, and Alliance Laundry Systems. Also, GE Aircraft Engines utilized the facility for hiring and training operations for

more than 60 days in 1998, helping to increase its local employment by nearly 23 percent since 1994. In another case, Lear Auto Manufacturing used the facility for the assessment, testing, and training of 250 employees. Most recently, Carhartt Industries announced the opening of a distribution center and will also be using the One-Stop Career Center for processing and testing applicants.

In addition to these private companies, several public organizations have used the facilities, primarily for training, including the Kentucky Department of Transportation, the Madisonville Police Department, the Hopkins County Coal Severance Board, and the Kentucky Deferred Compensation Authority.

The unemployment rate in Hopkins County dropped to approximately 4.5 percent in early 1999. Since 1994, there have been nearly 15 new businesses located in the area, creating more than 1,550 jobs and generating more than \$112.6 million in new investment. The good economy that the nation has experienced since 1994 has contributed to this success. However, Hopkins was also able to take advantage of employment gains by having the One-Stop Workforce System in place to bridge the gap between the skills required by new and existing businesses and the skills of existing workers, many of whom were coal miners with minimal education.

## Conclusions

The use of advanced telecommunications technology to link satellite locations and all the partner organizations makes the One-Stop Workforce System an accessible resource for both individuals and businesses. The effort benefitted from the region's existing telecommunications backbone and BellSouth's financial and in-kind support. Funding was also a critical factor. The stimulation of federal legislation and funding was an important inducement for the region to adopt a partnered approach to workforce service delivery.

Management by an economic development organization, rather than one of the workforce service providers, may have also helped to make the partnerships work. The economic development organization's role did not infringe on any workforce service providers' jurisdiction. The One-Stop Workforce System's success demonstrates how regional partnerships and telecommunications technology can work together to improve economic development efforts.

## Chronology of Milestones

- |                       |  |
|-----------------------|--|
| <b>1994 to 1995</b>   | Initial concept for the Madisonville Technology Economic Center (MTEC) developed.<br>EDA grants totaling \$892,000 received. |
| <b>December 1995</b>  | One-Stop Career Center adopted mission statement.  |
| <b>September 1996</b> | Grant funding requested from the Kentucky Workforce Partnership Council.   |

- October 16, 1996** \$250,000 grant for the One-Stop Career Center received from the Kentucky Workforce Partnership Council.
- October 29, 1996** Kentucky Governor Paul Patton officially opened MTEC.
- November 1996** Partners began to move into MTEC.
- January 1997** All “on location” One-Stop Workforce System partners in place.
- 1997 - 1998** Organizational alignment and implementation of the One-Stop Workforce System and the participating partners.
- 1998** Implementation of the Skills Labor Bank.

### **Reference Material**

Interview with Thomas Cooley, president of the Madisonville-Hopkins County Economic Development Corporation, on April 1, 1999.

Various resources provided by the Madisonville-Hopkins County Economic Development Corporation.

## **Case Study: Semiconductor Industry/Education Partnership (SIEP)** Tempe, Arizona

By Gordon Kingsley

### **Overview**

The Semiconductor Industry/Education Partnership (SIEP) in Tempe, Arizona, is an industry-specific workforce effort bringing together major manufacturers, industry suppliers, the Maricopa Community College District (MCCD), and other Tempe- area educational institutions to confront the severe shortage of highly trained semiconductor technicians. SIEP is a unique formal partnership between vertically aligned private companies and a community college system, which developed a curriculum that has become an industry model. The partnership is designed to graduate more “gold collar” technicians who possess the advanced technical capabilities needed by the semiconductor industry.

Organized through the Arizona Office of Business and Workforce Development (BWD), the partnership pools the resources of its members to fund projects. The pool of money created by SIEP is used to recruit students to training programs through innovative activities, including publicity campaigns and promotions and summer “chip camps” for high school students.

### **Context and History**

In the early 1990s, Phoenix had become one of the nation’s major centers of semiconductor manufacturing. The four largest companies (Intel, Motorola, Microchip Technologies, and Medtronic-MicroRel) planned major expansions near Phoenix. Soon, headlines from the business pages of the Phoenix newspapers painted a grim picture of the supply of highly trained technicians needed by the semiconductor industry.<sup>15</sup> For example, a labor study by SEMATECH (SEMiconductor MANufacturing TECHnology), a research and development consortium of semiconductor manufacturers, projected that the job-to-worker ratios in the semiconductor industry would reach as high as four jobs for every trained, available worker nationally.

Anticipating a worker shortfall, companies pursued various initiatives to increase the quantity of skilled workers. By 1997, there were 35 training centers across the country annually producing 3,000 technicians specifically trained in operating semiconductor manufacturing equipment. This still left industry well short of projected needs.

The quest for solutions to this skilled-labor shortage led Phoenix-area industry to the Office of Business Workforce Development (BWD) in the Maricopa Community College District. The nation’s second largest community college district, it has 10 colleges with 96,000 students enrolled in college-credit courses and another 100,000 enrolled in non-credit/corporate training

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<sup>15</sup> For example, on March 3, 1997 *The Business Journal: Phoenix* ran the headline, "From bad to worse: semiconductor worker shortage builds toward 5,000 unfilled jobs." A similar headline was seen on May 17, 1998 in *The Arizona Republic* announcing, "County colleges join effort to boost supply of valley workers: skilled employees are tough to come by, companies say."

courses. BWD forms partnerships with companies to provide contract-based training tailored to an individual company or industry-cluster training aimed at specialized workforce development needs.

In 1994, the semiconductor industry met with BWD to address its training and workforce needs. These meetings led to a study that assessed the needs of the region's information technology industry. The assessment projected a shortfall in the greater Phoenix area of 7,000 skilled workers for the semiconductor industry. However, in 1994 only 900 community college students were enrolled in courses relevant to semiconductor manufacturing. This convinced the community college district that educational programs could be created or redesigned to better serve the industry's needs. To accomplish this goal, MCCD collaborated with economic development organizations and semiconductor industry representatives in the Phoenix area to create SIEP.

## **Organization**

At different points in time, SIEP has been composed of up to 10 major semiconductor manufacturers and suppliers located near Phoenix,<sup>16</sup> four community colleges,<sup>17</sup> the Greater Phoenix Economic Council, the Arizona Department of Commerce, and several other public and educational institutions. SIEP operates like most industry education groups by charging annual membership dues, that are assessed according to members' ability to pay. The total operating budget for any one year is \$35,000. The work is done through ad hoc committees and monthly meetings. The typical representative to SIEP manages workforce development issues for a company, an educational institution, or a public organization. The position of chairman for SIEP revolves among the members and there have been three chairmen in the five years of SIEP operations.

## **The Practice in Operation**

SIEP's first major task involved changing the curriculum at the community colleges. BWD used SIEP as the means for industry and BWD to identify key areas for improvement in the course selections and offerings. Companies donated equipment and teaching materials to aid this effort. Collectively, SIEP and the community colleges turned to SEMATECH and SEMI/SEMATECH (an association of more than 200 industry suppliers) to redesign courses so that graduates better matched industry needs. This meant increasing math, science, and electronics abilities of students.

In less than six months, the Maricopa Community College District instituted a new curriculum drawing on the talents of 15 faculty in four community colleges. Mesa Community College had

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<sup>16</sup> Companies affiliated with SIEP include Intel Corp., Johnson Controls Inc., Microchip Technology Inc., Medtronic-MicroRel, Motorola Inc., SGS-Thomson Microelectronics Inc., Sitix, and others.

<sup>17</sup> The four participating community colleges are Mesa Community College (semiconductor manufacturing process), GateWay Community College (heating, ventilation, and air-conditioning for chip manufacturing), Glendale Community College (semiconductor manufacturing technology), and Chandler-Gilbert Community College (semiconductor manufacturing process).

offered a semiconductor manufacturing process technology program since the 1980s. The college reconfigured existing courses in circuit mask design into a degree program that included a better foundation in math, science, and electronics. GateWay Community College updated its heating, ventilation, and air-conditioning program to include hydraulics, water treatment, computer controls, sensing systems, and related topics to prepare technicians to service the “smart” buildings that house the automated manufacturing processes of a modern chip-making plant. Glendale Community College transformed its electronics engineering technology program into a semiconductor manufacturing technology program that paralleled the one at Mesa. Chandler-Gilbert Community College started a new semiconductor manufacturing program.

SIEP also took the lead in organizing a program to recruit Phoenix-area students to the new semiconductor programs in the community colleges. The message emphasized the shortage of technicians and the higher salary levels associated with these jobs (compared with traditional low-wage service industry positions). SIEP enlisted the assistance of the Greater Phoenix Economic Council for help in designing a \$62,000 mass marketing campaign to recruit students by using this basic message. The campaign consisted of several strategies: advertising, placing stories in the local paper about worker shortages and local training opportunities, targeted presentations to professional groups, and open houses on the community college campuses.

The ad campaign involved 30-second spots on three local radio stations, print advertising in the major local newspapers, and feature-film advertising at three Phoenix movie theaters. The ads were designed to pique the interest of potential students and steer them to the community colleges. Representatives from semiconductor manufacturers appeared in the ads and described industry’s needs and the opportunities available to trained technicians.

SIEP also turned to professional programs to promote the new training opportunities. Representatives from BWD and SIEP made presentations to high school and college counselors. Programs were also developed with two vocational high schools to offer advanced credit in the semiconductor training programs at the community colleges. SIEP also enlisted the support of the Arizona Department of Commerce to help create awareness of the program state.

Open houses were held on the community college campuses. Invitations were distributed on all colleges in the Phoenix area, at stores, and through direct mail. The first open house drew more than 3,000 people. To increase the attractiveness of the programs, SIEP members provided scholarship funds. For example, Intel made \$200,000 available for scholarships to the new programs. The Arizona Software Association, Intel, Johnson Controls, Microchip Technologies, Motorola, and SGS Thompson have donated classroom equipment, materials, and scholarship funds.

BWD is replicating the SIEP experience with the software industry. A key partner in this effort is the Arizona Software Association. BWD has had to assume a much heavier load in program administration because of the greater scale of this partnership. In part, this is because Phoenix contains numerous software developers. However, software firms tend to be much smaller than

semiconductor manufacturers. Also, all 10 community colleges within MCCD are participating, meaning that over 70 faculty are involved in the effort.

An early objective of SIEP was to develop a proposal for the National Science Foundation's (NSF) program for creating Advanced Technology Education Centers nationwide based at community colleges. The proposal for the Maricopa Advanced Technology Education Center (MATEC) was funded in 1996 with a \$4.6 million grant. It effected a partnership of 10 SIEP companies, the four SIEP community colleges, Central Arizona College, Pima Community College in Tucson, Albuquerque (New Mexico) Technical Vocational Institute, Portland Community College, three local school districts, and Arizona State University. Where SIEP focused on solving problems confronting Phoenix, the scope of MATEC programs was nationwide and even international. Many of the curriculum changes developed under SIEP were now organized under MATEC. But MATEC is designed to deploy educational programs to the semiconductor industry and to community colleges, particularly those in locations with major manufacturing facilities. To this end, MATEC is involved in creating and distributing computer-based, multimedia instructional modules. MATEC also provides staff development for faculty at all educational levels by disseminating curriculum and information concerning best practices in education. MATEC also develops outreach materials to recruit students.

## **Results to Date**

There are several indications that SIEP has had an impact in its short existence. The number of students enrolled in the semiconductor manufacturing programs has more than doubled from 900 in 1994 to over 2,000 today. Industry leaders have expressed satisfaction with the direction SIEP and MATEC have taken. One indicator of this satisfaction is that significant numbers of students are delayed in completing their program of study. For example, in the semiconductor manufacturing program MCCD has had 2,300 students enroll in the two-year program, but a "hungry" industry has tended to hire these students after their first year of study.

SIEP's impact was also evident in 1998, during a downturn in the semiconductor industry, particularly in the Phoenix area. Roughly 2,000 workers were laid off at Motorola and 600 at Intel. The local layoffs were due partly to declines in demand from East Asian markets, but also because both companies closed old manufacturing facilities that were no longer competitive. SIEP monitored this trend and found that graduates of the semiconductor education programs were not among the groups of employees laid off. However, in response to market demand SIEP has moved recruitment programs toward the 40 high school districts and two vocational technology high schools in Phoenix and away from mass market appeals.

SIEP has observed quick growth in MATEC. The idea of curriculum reform has proven very attractive to universities, community colleges, and vocational technology high schools in communities housing the information technology industry. There are now 17 computer-based instructional modules available to students and faculty online. More than 300 community college faculty have enrolled in MATEC nationwide. Similarly, over 70 community colleges have formed an alliance with MATEC to offer training for semiconductor manufacturing or related programs. The MATEC programs have also attracted international partners—Nanyang

Polytechnic (Singapore), Institute of Technical Education - Yishon (Singapore), Northern Alberta Institute of Technology (Canada), and Temasek Polytechnic (Singapore).

## **Conclusion**

To some extent, SIEP's approach is most relevant to communities facing a labor shortage. SIEP's success in obtaining support from leading companies and research groups in the semiconductor industry can be attributed in large part to the intensity of the labor shortage confronting that industry. Still, SIEP and MATEC provided a timely and effective response to a critical industry need. This labor shortage situation suggests that communities should monitor the labor needs of local industries to forecast possible shortages before they happen, giving relevant training a chance to keep pace.

Of particular importance from the education side of the partnership is the reaction time demonstrated by BWD and SIEP. Within a year of SIEP's formation, significant curriculum reforms occurred. Within two years, the proposal to NSF was drafted and funded. Within three years, a sophisticated and integrated computer-based curriculum was in use by 300 faculty and 70 community colleges nationwide. Perhaps the most innovative aspect of SIEP is its operational flexibility to quickly pursue several different programs. The informal working relationships forged in SIEP have proved effective when it mattered most.

## **Chronology of Milestones**

- 1994** SIEP created.
- 1995** SIEP conducted an open house promoting new technical education programs for the semiconductor industry.  
  
New curriculum put into place with the help of SEMATECH and SEMI/SEMATECH in the four participating community colleges.  
  
SIEP and BWD submitted a proposal to the NSF to create MATEC.
- 1996** MATEC Center created through a \$4.6 million NSF award.
- 1997** Enrollments in the four semiconductor-related programs at MCCD community colleges reached 2,000.
- 1999** MATEC at a point where it offers 17 computer-based instruction modules, provides training to more than 300 community college faculty nationwide, and has alliances with over 70 community colleges nationwide.

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Landrum, B.A. 1998. "'Gold collar' technicians essential to chip industry in Greater Phoenix." *Economic Development Review*, 15, 4, 4-7.

Rowling, R. 1998. "Motorola to cut 1,200 Phoenix jobs; shutting down half of 52nd Street plant." *The Arizona Republic*, December 19, 1998. Available through <http://web.lexis-nexis.com/universe/>.

## Web Sites

<http://www.dist.maricopa.edu/bwd> is the Web site for the Office of Business Workforce Development, Maricopa Community College District

<http://matec.org> is the Web site for the Maricopa Advanced Technology Education Center (MATEC)

## MATEC Publications

Fact Sheet: NSF Advanced Technology Education Centers

Fact Sheet: Mission, Maricopa Advanced Technology Education Center

Fact Sheet: Curriculum Development

Fact Sheet: Faculty/Staff Development

@MATEC is a quarterly publication of the Maricopa Advanced Technology Education Center.

## **Case Study: Urban Enterprise Corps**

### Chapel Hill, North Carolina

By Richard Tate

#### **Overview**

The Urban Enterprise Corps (UEC) introduces advanced business knowledge directly into inner-city businesses to build local skills, create jobs, and alleviate poverty. The UEC, run by the Kenan Institute in Chapel Hill, North Carolina, began as an inner-city Master of Business Administration (MBA) placement program, but has evolved into a service-oriented program that delivers business and management expertise to minority- and women-owned businesses in economically distressed communities.

UEC's service-oriented strategy aims to leverage the business expertise of top MBA graduates to benefit a larger number of inner-city businesses. UEC's new strategy is built on lessons learned during four years of service to inner city businesses. It stresses a wider application of expertise, higher levels of company buy-in, and greater attention to building community business resources that can benefit a local economy for years to come.

The UEC targets established urban businesses with annual revenues of at least \$1 million, which means that the program gives priority to established small businesses rather than start-up firms. UEC has operations in North Carolina's three urban centers—Durham, Raleigh, and Charlotte.

#### **Context and History**

Small minority- and women-owned businesses in north and east-central Durham, North Carolina, like most inner-city businesses, face constant challenges in locating and keeping good employees and accessing capital to facilitate business growth.

In 1994, philanthropist Frank Hawkins Kenan saw the success of the Kenan Institute's MBA Enterprise Corps, which had helped businesses in Central Europe and Southeast Asia, as a model applicable to distressed urban areas in the United States. Through his support, The Kenan Institute obtained \$450,000 from the William R. Kenan, Jr. Charitable Trust to start the Urban Enterprise Corps.

Initially, the UEC recruited second-year MBA students from top business schools to spend up to two years working on-site for minority-owned businesses or community economic development organizations to transfer managerial and technical know-how. The UEC paid their salaries of approximately \$35,000 to \$40,000 each. This process continued through 1997 and involved eight to nine MBA students annually. Many of these students were hired by the organizations with which they already were working. Although the program had accomplishments (see Results to Date section), UEC wished to serve more companies and improve implementation by client companies already receiving managerial and technical assistance.

In December 1997, when the Kenan Institute established a UEC office in Charlotte, it took the opportunity to refine its strategy. In early 1998, the UEC adopted a new, more service-oriented approach utilizing its MBA talent in more businesses and providing higher value-added services. The UEC's new approach entails hiring MBA graduates as UEC staff and establishing fee-based service contracts with business clients lasting around three months, instead of directly placing graduates with client businesses as employees for one or two years. UEC also set screening criteria to ensure that it places graduates with viable enterprises.

## **Organization**

UEC currently operates with a director and an executive director, the latter running UEC's day-to-day activities. UEC has three staff members serving the Raleigh-Durham area and eastern North Carolina, and two staff members based in Charlotte serving greater Charlotte and western North Carolina. The director and executive director are responsible for setting and implementing UEC's direction. Each staff member has a portfolio of at least five companies to which they provide managerial and technical assistance. The program operates with a budget of approximately \$500,000.

## **The Practice in Operation**

UEC screens private companies to ensure that they are viable, with sufficient financial stability to take advantage of the assistance they receive from UEC staff consultants. A typical private enterprise receiving UEC help is three to five years old, has annual revenues of at least \$1 million, and operates in growth sectors such as construction or services. In addition, the company must disclose its problems and provide information deemed necessary by the UEC staff consultant. Qualified firms can receive service from UEC staff consultants through fee-based service contracts. Qualified firms also have access to a separate \$25 million venture capital fund called the Urban Venture Fund. Clients range from Car World of Durham, a minority-owned firm, to individual families just getting started in business.

For firms that do not qualify for service contracts, UEC also fosters entrepreneurial activities by building a comprehensive network of community resources and providing what it calls "the four Cs": cooperation, collaboration, coordination, and capital. The term capital refers to the societal, cultural, and financial capital of government, business, philanthropy, and community-based organizations (excluding churches), as well as the higher-education system.

The UEC founded the Entrepreneurial Development Program (EDP), organized around the "life-cycle of business" to help improve the survival rate of minority business enterprises. The EDP includes a formal mentoring component, linking participants in the program with successful entrepreneurs from similar businesses and industries. The goal is to strengthen participants' connections to the wider business community and to furnish technical knowledge, guidance, and inspiration. By counseling younger businesses, successful entrepreneurs will foster economic development in distressed communities and may, themselves, benefit from networking opportunities and other collaborative ventures.

UEC recruits MBA graduates for its programs by marketing at universities in North Carolina and throughout the Southeast. UEC maintains an electronic application form on its Web site to facilitate student applications. Graduates begin at UEC with a mandatory orientation and training workshop. After their training, UEC matches them with companies based on their expertise and company needs.

## Results to Date

Little information exists to evaluate the impact of the UEC's new service model, but data provided by five businesses served under UEC's old service model demonstrates the potential impact of urban business assistance efforts. The five firms, which began working with the UEC in fall 1994, experienced substantial growth in sales and employment over the last three years. Collectively, these companies expanded employment by 79 percent (from 52 in 1993 to 93 in 1995) and their gross receipts by 145 percent (from \$217 million in 1993 to \$618 million in 1995).

The CEOs of these firms attribute this growth and expansion directly to the technical assistance and network opportunities provided through the UEC and the Kenan Institute. The UEC's recent shift in its service approach intends to amplify these impacts across a greater number of companies to more significantly affect inner-city economies.

## Conclusion

According to UEC Director Dr. James Johnson, the organization learned four important lessons from its previous service model: (1) charge for assistance; (2) make companies expose their problems so that these problems can be addressed; (3) have stringent qualifications for screening companies getting assistance; and (4) make sure the companies are viable.<sup>18</sup> These lessons have been integrated into its new service model that employs MBA graduates on shorter-term assignments with companies likely to implement the managerial and business practices they learned from the graduates.

It should be noted that UEC has not yet evaluated the results of this new service model, but plans to do so in the future. In addition, the use of MBA graduates to provide services to firms does have costs associated with it. Some areas that cannot easily afford to pay MBA graduates may not be able to adopt this strategy. Nevertheless, UEC offers an interesting approach to employ recent MBA graduates to help businesses and the local economy.

## Chronology of Milestones

- |                      |  |
|----------------------|--|
| <b>1994</b>          | Urban Enterprise Corps launched in Durham, North Carolina, as part of the Frank Hawkins Kenan Institute of Private Enterprise. |
| <b>December 1997</b> | Kenan Institute opened office in Charlotte to provide a model for creating jobs and alleviating poverty in the inner city.     |

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<sup>18</sup> Interview with Dr. James H. Johnson and Ms. Keenya Toney, March 17, 1999.

**Early 1998** Urban Enterprise Corps shifted its focus from providing fully paid MBAs on-site for one to two years to a group of case workers working out of UEC offices on a portfolio of cases.

**Early 1998** Civic Enterprise Training Program launched to help upgrade business skills of inner-city organizations.

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## Responses to the New Economy

The convergence of computing and telecommunications industries and research breakthroughs in biotechnology have created new economic development opportunities. Local communities have devised economic development initiatives to target mostly small firms in these industry areas. The locational needs of technology-based businesses are the focal point of some of the cases in this collection. Others assist with financing or providing valued information. All are aimed at diversifying the local economy by encouraging current or potential high-growth companies in these industries to improve local economic conditions.

### City of Littleton's New Economy Program, Littleton, CO

Summary. The initiative is operated by the city's business/industry affairs department, with an ongoing and informal partnership with a nearby research center. It provides a large variety of research-based information services to business firms.

Lessons Learned. The services have been successful in part because many of the firms already were successful. However, the services also have been based on sound research rarely seen in economic development organizations, resulting in more responsive service offerings and early use of the Internet.

### Massachusetts Biotechnology Research Park (Biotech Park), Worcester, MA

Summary. The park is owned and managed by a private, non-profit organization that is the primary economic development arm of the city. Another non-profit educational and research organization, and its partners in higher education, have guided the development of the park. The park provides local firms with entrance into the biotechnology industry by locating them close to academic, scientific, and technology resources in the Boston area.

Lessons Learned. The success of the park resulted from: 1) access to the scientific and technical resources of institutions of higher education; 2) the availability of a large tract of land that could be developed at competitive market prices; and 3) the involvement of the local business development corporation and a non-profit educational and research corporation. Park management learned the importance of flexibility when the lack of significant results necessitated broadening targeted industries to include medical devices industries.

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## **National Center for Industrial Competitiveness (NCIC) Capital Fund, Dayton, OH**

Summary. The fund is a non-profit corporation offering venture capital to businesses, as well as helping to commercialize new technologies as part of a conversion of the local economy from defense-related to commercial industries.

Lessons Learned. The widespread support that the fund enjoys from private and public board members prevents the fund from becoming subsumed by state and local political issues. Although the support creates autonomy for the fund, the fund still needs to attract private-sector funding to give it more financial freedom.

## **Project Mercury, San Diego, CA**

Summary. This assistance program helps entrepreneurial high-tech businesses develop their technology so that they can better compete with larger firms for funding. The project is operated by a regional technology alliance and provides a small-business assistance program. The alliance is a non-profit organization with mayoral and private sector representation on its board.

Lessons Learned. Project staff have learned that Web-based applications can be used to provide more services to its high-tech clients. Another important factor has been patience in foregoing shorter-term economic development objectives, such as creating jobs, to pursue long-term economic diversification.

## **Winchester Technology Zone, Winchester, VA**

Summary. The zone uses tax incentives targeted at small Internet-related businesses to revitalize a historic downtown area. The zone takes advantage of new state legislation going beyond the traditional state-sanctioned enterprise zones, and it enables private companies to use a federal telecommuting center. The local economic development commission is responsible for marketing the zone to new businesses.

Lessons Learned. Program management has not found the ability to locate in an historic district to be as essential as targeted incentives and telecommunications infrastructure to the ability of the technology zone to attract small Internet-related companies.

## **Case Study: City of Littleton's New Economy Program**

### Littleton, Colorado

By Robert Lann

#### **Overview**

The city of Littleton, Colorado's New Economy Program (NEP) is one of the few city economic development programs in the United States that actively incorporates leading-edge research in economics and psychology. NEP has pragmatically applied leading-edge research to craft a strategy to nurture high-growth, entrepreneurial small businesses. And, it has shifted from offering education and training to providing value-added information services to encourage this growth.

NEP draws on research in three areas to develop and refine its services: (1) the economic development concepts of "economic gardening" and "gazelles" for entrepreneurial growth, (2) temperament styles pioneered by Myers-Briggs, and (3) complex adaptive systems. NEP has applied these concepts to develop a portfolio of information services designed to help small firms execute marketing and product development growth strategies.

The program has continued to gather new ideas by originating and maintaining an economic development listserv ([econ-dev@csn.net](mailto:econ-dev@csn.net)), which has grown to 325 members in 17 countries. The program recently won the National League of Cities Innovation Award for Economic Development.

#### **Context and History**

NEP began in the late 1980s in response to Littleton's economic recession. Like much of Colorado, Littleton was in an energy-induced economic slump. Although Littleton did not have many oil facilities inside its city limits, the rapid decline of oil and gas firms slowed secondary industries – such as construction, retail, and services – throughout the region. The city council was discouraged by a poorly performing traditional business recruitment strategy and decided to concentrate on strengthening existing business. In 1987, the council formed the business/industry affairs department (BIA) and named Christian Gibbons as director.

In the process of designing new programs for the BIA, Gibbons and Littleton's assistant city manager heard a speech by a researcher from the Center for the New West (a Denver think tank) about "economic gardening," which focuses on enhancing the local economy by nurturing entrepreneurial activity. Although the concept of enterprise development was not new in the late 1980s, many Colorado economic development organizations were still engaged in business recruitment. The two men introduced themselves and visited the Center for the New West. At the Center for the New West they were introduced to "some of the best thinkers in this country on the idea of entrepreneurialism" including David Birch, president of Cognetics, Inc. From Birch, the BIA adopted the concept of "gazelles" (the fastest growing 3 to 5 percent of firms, with

growth rates of 20 percent or more) to define the types of companies in Littleton likely to provide the most growth.

Gibbons and his colleagues spent the first year researching ideas connected to economic gardening. Once the city council approved their basic approach, an 18-month demonstration project was set up with several Littleton businesses. After the success of the demonstration project, they formed the New Economy Program.

Early in the program the city library received a small grant to offer online information services. Gibbons began investigating what kind of information could be accessed through online searches of commercial databases. Working with the city's librarian, he was able to achieve results that met local businesses' information needs. Eventually, he recruited the city librarian to be his full-time information specialist. Today, providing information services to local businesses is NEP's primary business service.

Also at the beginning, BIA offered a 13-part seminar and training series to bring state-of-the-art business practices, with a focus on innovation, to Littleton companies. However, after offering this service for four years, Gibbons found that the training series did not affect the growth rate of most of the small-business participants. It was at this point he discovered the importance of temperament (as measured by Myers-Briggs) as a major factor in explaining the grow rate of companies. Gibbons concluded that business owners with distinct temperaments were more likely to produce gazelles, and that most small companies will never achieve this status. Around 1994, he discontinued the seminar program.

Another area of cutting-edge research Gibbons employed in developing the NEP was the Santa Fe Institute's investigations into complex adaptive systems and its concept of the "edge of chaos." These ideas led him to the realization that increasing the information flow to businesses was an important catalyst in making companies more competitive and innovative. It also led the NEP to establish industry centers such as the Colorado Center for Information Technology and to bring engineering courses from the University of Colorado to Littleton's city library via live broadcasts from the Boulder campus.

## **Organization**

NEP is run by the BIA. Gibbons and Deputy City Manager, Jim Woods collaborate on program design. BIA also participates in an ongoing informal partnership with the Center for the New West. Currently, Christian Gibbons' staff consists of a database manager, an economic intelligence specialist, and an intern providing geographic information system (GIS) expertise. BIA's 1998 budget was \$321,000, and its 1999 budget is \$387,230.

## **The Practice in Operation**

Today, NEP provides information services to all kinds of Littleton firms and individuals using research capabilities that include online databases, commercial CD-ROM databases, the Internet, and a GIS. NEP information specialists can access over 100,000 online publications to provide

market lists, competitor intelligence, new product releases, federal and state regulations, industry trends, and financial information in support of marketing and new-product development strategies. As a public service, the program also provides focus groups, GIS mapping to plot markets and competitors, marketing and mailing lists, and business plans for start-up firms. Firms can use as much as \$150 a year (online charges to BIA) for information searches, without incurring any fees.

NEP uses multiple means to market these services to clients. Through its follow-up with past clients, it receives repeat business. BIA staff make “cold calls” every week to invite businesses to monthly lunch-time service demonstrations. NEP also publishes a monthly newsletter that goes to all Littleton businesses. City publications and local, metro, and national press regularly cover the program.

In 1998, NEP conducted 58 major database searches and another 50 or so minor database searches for local business. One example is a patent search and updates on planar magnetron cathodes and sputtering and magnetron cathodes for a vacuum parts manufacturer. Another involved providing a market list of potential new clients poised for an initial public offering for a telecommunications firm. NEP also compiled a competitor profile on sports car manufacturers for a motor sports engineering and design firm. Because its services are open to the public, significant numbers of clients have been churches, social services organizations, and other likely “non-gazelles.”

NEP began providing Internet training to local businesses in 1993. It also paid Web designers some \$300 per business to set up basic Web pages. Now that the Internet is widely used, NEP no longer offers Internet training, and plans to discontinue Web page support. As Christian Gibbons stated, “Our job is to get people exposed to technology. When it becomes common, we move on.”

## **Results to Date**

In 1991, NEP studied its original 18-month demonstration program, measured results, and found that 118 new jobs were created by 36 participating companies during the pilot period. From that point, the city has continued to fund the program. In 1999, Littleton is doing well economically (employment growth of 8.7 percent from 1990 to 1997), and supporters of NEP believe their program has helped contribute to that success.

One small company that benefitted from NEP services was AVT Customer Smart Batteries, which needed help in finding new products and markets for its batteries. BIA staff monitored the industry and found information on “smart” charges and “smart” batteries that use microchips. The company used this information to start a new product line and now gets 30 to 45 percent of its revenue from these products.

NEP specialists were also able to save a local business from entering into a joint venture with a Canadian company that was nearing bankruptcy. The local company makes a device that

measures the opacity of tinted windows. BIA's research on the Canadian company stopped the Colorado firm from entering a venture that could have been financially draining.

## **Conclusions**

NEP could be accused of helping firms that are already gazelles. However, it is not always clear that NEP's small-business clients would have survived, much less have become gazelles, without NEP's services. For example, had the local business entered the joint venture with the Canadian company, it may not have continued operation. Also, because NEP is a local government program it offers services to all of Littleton's businesses. But the program's focus is on increasing the number of and nurturing existing fast-growing, innovative businesses as the means to economic prosperity rather than the traditional recruitment strategy employed by mainstream economic development organizations.

NEP emphasizes the importance of having an intellectual framework behind service offerings. Christian Gibbons invested considerable time researching varying disciplines, an investment rarely seen in local economic development organizations. He has continued to foster new ideas through NEP's listserv. This intellectual framework is more than just rhetoric. He has used it to mold NEP into what it is today. For example, NEP changed service offerings from seminars to information services to foster gazelles in part because of what he learned about the importance of temperament and the flow of information in complex adaptive systems. Likewise, NEP offered basic Web services in the early stages of the commercial usage of the Internet, then eliminated these services when the commercial market grew. NEP's experiences show that economic development organizations can pair cutting-edge research and pragmatism to nurture local businesses.

## **Chronology of Milestones**

- |             |  |
|-------------|--|
| <b>1987</b> | Littleton city council hired Christian Gibbons to help existing businesses expand.   |
| <b>1988</b> | Gibbons and Jim Woods conceptualized the New Economy Program.  |
| <b>1989</b> | New Economy Program launched with an 18-month demonstration program.   |
| <b>1990</b> | Colorado Center for Software Technology established in conjunction with the University of Colorado and Arapahoe Community College.           |
| <b>1991</b> | Program results measured after 18 months.  |
| <b>1993</b> | Began a program to get Littleton businesses on the Internet, provide training and assistance with the installation of hardware and software. |
| <b>1994</b> | ECON-DEV, an e-mail listserv, created.   |
| <b>1997</b> | Ground-breaking for construction of the NEP-supported Southwest Corridor Light Rail Line linking Littleton with Denver.                      |

**1999** NEP won the National League of Cities Innovation Award for Economic Development.

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# Case Study: Massachusetts Biotechnology Research Park (Biotech Park)

Worcester, Massachusetts

By Gordon Kingsley

## Overview

The Massachusetts Biotechnology Research Park (Biotech Park) is a community economic development response to a local market opportunity in the biotechnology industry. The park matches local resources, such as academic research and medical institutions, with the needs of businesses in the biotechnology industry. Although the park was originally intended to operate like many similar industrial or research parks, providing infrastructure required by industry, it has evolved in response to industry needs to provide a specific set of incubation and business services that target high-growth entrepreneurial small firms.

The Biotech Park is home to roughly 20 firms and organizations, ranging from pre-seed-stage (those that have not yet obtained venture capital) biomedical start-ups to major corporations. The park has 900,000 developed square feet consisting of five multi-tenant buildings,<sup>19</sup> the world biotech headquarters of German conglomerate BASF, a medical imaging center, and a hotel.

## Context and History

With the decline of the textile industry, Worcester, Massachusetts, like many cities, recognized the need to develop infrastructure that would attract or support new economic development opportunities. Located on the western outskirts of metropolitan Boston, Worcester hoped to tap into Boston's educational and scientific resources to stimulate economic growth.

In 1981, the city of Worcester and the chamber of commerce commissioned a regional economic planning study. The study recommended that Worcester focus on biotechnology, which became the basis for the city to pursue a Biotech Park.

In 1982, the city located land for the Biotech Park on the grounds of a former state mental hospital. Efforts to purchase this land faced opposition from several groups. Mental health advocacy organizations, concerned that the sale of the lands from the old state mental hospital did not result in any direct economic benefit to the mental health community, unsuccessfully sued to block sale of the land to the city. Environmental groups objected to the loss of green space associated with the park's development. The historic preservation community was concerned about locating the development adjacent to the historic state hospital. The business community was skeptical because Biotech Park would compete with an existing cluster of biotech firms in nearby Cambridge. Despite these objections, the city, through the Worcester

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<sup>19</sup> Housing, wetlab (experimental area with tools and techniques to understand biological, physical, and chemical processes occurring in natural environments), office, and good manufacturing practice (GMP) production space.

Business Development Corporation (WBDC), petitioned the state to designate the land as surplus, and the state legislature authorized the sale of 75 acres to WBDC in 1984.

Also in 1984, Worcester passed a comprehensive ordinance requiring companies to follow National Institutes of Health (NIH) guidelines. This ordinance was designed to provide biotech companies a more predictable regulatory environment, as well as to indicate that Worcester would not develop the types of harsher local regulations common in other New England communities.<sup>20</sup>

## **Organization**

Biotech Park is developed, owned, and managed by WBDC, a private non-profit corporation that serves as Worcester's primary economic development arm.

The scientific development of Biotech Park has been guided by the Massachusetts Biotechnology Research Institute (MBRI), a non-profit educational and research corporation. MBRI received about \$1 million in state funds in 1998 and derived additional revenues from companies leasing space in its incubators.

MBRI is governed by a board of trustees composed of chief executive officers and administrators from local research universities, colleges, and major corporations, as well as the chairman of WBDC and the president of the chamber of commerce. Research partners with representation on MBRI's board include the University of Massachusetts Medical Center, which is adjacent to the Park; Tufts University School of Veterinary Medicine; and the Worcester Foundation for Experimental Biology. In addition, MBRI has obtained personnel or other resources from six teaching hospitals, the Harvard University Primate Research Center, and eight colleges and universities (including Clark University, Holy Cross University, and Worcester Polytechnic Institute). Thomas Andrews, executive director of Biotech Park, explained that a major advantage of Biotech Park has been its proximity to this high-powered combination of medical and veterinary research resources.

## **The Practice in Operation**

Key elements of the Biotech Park strategy include (1) defining target firms, (2) furnishing infrastructure (3) providing access to research scientists, (4) offering access to venture capital, and (5) establishing competitive leasing rates.

WBDC management and community leaders targeted small biotech companies, particularly start-up firms, for the Biotech Park. Cambridge had already attracted small and medium-sized biotech industries based on its proximity to Harvard University, the Massachusetts Institute of Technology, and other Boston-based universities, but it had become too expensive and lacked

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<sup>20</sup> Joseph Michaels, vice president of BASF Bioresearch Corp., said that the fact that all of Worcester's ordinances were in place and that city officials were knowledgeable about biotech were instrumental in BASF's decision to locate here.

office space for small biotech companies. In contrast, the Biotech Park offered to customize space to small biotech companies' specifications. By emphasizing start-up firms, WBDC explicitly gave higher priority to an enterprise development strategy.

WBDC sought to construct multi-tenant speculative buildings to market the Biotech Park and save entrepreneurial firms money. WBDC persuaded several lending institutions to fund construction of a building that combined high-quality wetlab, office, and production space. WBDC also obtained financing for improvements in the laboratory buildings at rates better than small firms could negotiate on their own. WBDC's efforts allowed biotechnology companies to preserve capital for conducting research rather than spending it on facilities.

MBRI organized Worcester's local higher educational institutions to enable Biotech Park tenants to collaborate with scientists, recruit graduates, and access research equipment and facilities. The senior executive officer of each local higher educational institution served on the governing board of MBRI and provided a contact for Biotech Park tenants.

MBRI established a venture capital fund for biotechnology start-ups in partnership with Commonwealth Bioventures, Inc. a local for-profit venture capital firm that raised \$55 million dollars over nine years from local corporations, individuals, educational institutions, and foundations. While Commonwealth Bioventures did not require that firms locate at Biotech Park, many of them did. MBRI established other venture capital funds in 1998 with BioVentures Investors. One of these has raised \$15 million and another is attempting to raise \$25 million.<sup>21</sup>

MBRI also manages business incubators. The Biotech Park has offered start-up firms discounted lease rates and MBRI has provided business support services. For example, MBRI has hosted monthly forums at the Biotech Park in which resident companies and their academic and private-sector partners present their products to other incubator tenants, private-sector companies, researchers, and investors.

## **Results to Date**

In 1998, Biotech Park had over 900,000 square feet developed for 21 tenants, with approximately 30 acres still available for development. A 1996 study estimated that Biotech Park contained nearly 800,000 square feet in eight buildings, representing \$250 million in private investment by the tenants. Worcester received over \$3.5 million in annual property tax revenues from the park in 1996. At that time, the park's 17 tenants employed roughly 1,200 people on-site, although most of these jobs were relocations of existing researchers and facilities rather than new jobs.

WBDC and MBRI were disappointed in the small number of new jobs that the Biotech Park initiative created. In 1996, WBDC and MBRI decided to refocus Worcester's economic

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<sup>21</sup> Thomas Andrews notes that while new personnel have been brought in and have had some success in raising funds, biotechnology has become a much tougher industry to sell as investor's attention has now moved to information technology.

development strategy to target medical device companies. MBRI changed its name to Massachusetts Biomedicine Initiatives (MBI) to reflect this strategic shift. In 1998, KPMG Peat Marwick and the Massachusetts Medical Device Industry Council released a study showing that Massachusetts accounted for 7 percent of the \$51 billion U.S. market for medical supplies. According to Mark Roosevelt, executive director of MBI, "Medical device companies are scattered and have no central location yet in the state. Device makers are also more real estate price-conscious than their biotech brethren and are likely to locate away from the high-priced Boston area. Moreover, Worcester has all the necessities to support medical device firms, including medical centers, a large patient base, and manufacturing capacity."<sup>22</sup> The Biotech Park will now focus more on the medical device industry than on biotechnology firms.

## Conclusions

Thomas Andrews points to three critical elements that contributed to the success of Biotech Park. First is the access to scientific and technical resources of higher education. Second is the availability of a large tract of land near scientific and technical resources that could be developed at competitive market rates. Rents for fully-equipped buildings at the Biotech Park were nearly \$20 per square foot lower than those of Cambridge-area properties. Third was the involvement of WBDC and MBRI, which had the vision and ability to assist the city and real estate developers in creating the Biotech Park. These organizations not only showed leadership in targeting biotechnology industries, but also had the flexibility to redirect the economic development strategy to medical devices industries.

Interestingly, Andrews found that the Biotech Park's lower rents were not always effective in attracting biotechnology firms. Biotechnology firms valued close proximity to researchers more highly than lower lease rates. According to Andrews, "[Biotechnology firms] believe they must pay the freight of location. That means being next to a community of scientists. If we were a few miles closer to Boston, we would be double the size and completely full."

The selection of a target industry had important implications for Worcester's economic development strategy. The targeting of biotechnology and medical devices industries required a significant resource investment by the city and state to construct facilities, foster research collaborations, and establish incubator and venture capital programs. It will take time before Worcester learns whether these investments will pay off in new jobs.

## Chronology of Milestones

- 1981** The concept of a biomedical research park adjacent to the University of Massachusetts (UMASS) Medical Center first proposed by the Worcester Area Chamber of Commerce and the UMASS Medical Center.

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<sup>22</sup> The quote and market data come from Stringer, J. "MBI chief details state of biotech industry in Worcester." *MASS High Tech*, v. 16, p. 6, 11/16/98.

City of Worcester and the chamber of commerce commission a regional economic development planning study targeting biotechnology as a growth industry.

- 1982** A 75-acre parcel became available for development.
- 1983** The Worcester Business Development Corporation (WBDC) designated as developer of the Massachusetts Biotechnology Research Park (MBRP).
- 1984** Massachusetts Biotechnology Research Institute (MBRI) created.
- Biotech Park awarded an operating grant.
- 1986** City of Worcester awarded grant to begin infrastructure improvements.
- 1987** One Biotech and the Central Massachusetts Magnetic Imaging Center opened.
- 1988** MBRI announced the formation of Commonwealth BioVentures Inc. (CBI), a for-profit venture capital firm funding start-up biotech companies.
- Two Biotech facility opened in September at 95 percent occupancy.
- 1991** Three Biotech facility opened.
- 1994** Four Biotech facility opened.
- 1997** Construction began on Five Biotech facility.
- 1998** Plans made for Six Biotech facility.
- MBRI changed name to Massachusetts Biomedicine Initiatives.

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<http://www.biorealestate.com/> is the main Web site for Biotech Park.

# **Case Study: The National Center for Industrial Competitiveness (NCIC) Capital Fund**

Dayton, Ohio

By Gordon Kingsley

## **Overview**

The National Center for Industrial Competitiveness (NCIC) Capital Fund, Inc. is one of the few local, publicly funded venture capital funds in the United States. NCIC was created with federal and Ohio state funding to mitigate the effects of defense cutbacks on the Dayton-area economy. As such, it also was one of the few regional defense conversion initiatives in the United States to employ venture capital funding as part of its conversion strategy.

Modeled on successful state venture capital programs, NCIC was structured as a non-profit organization, but designed to operate more like a private venture capital fund. Ideally, NCIC seeks to withdraw its involvement in a firm in two years and obtain repayment within three to five years. NCIC recycles its public-sector funding to achieve self-sufficiency. Although debt financing remains its primary funding vehicle, it also considers accepting royalties on sales or other arrangements for repayment.

NCIC investments typically range from \$200,000 to \$1.5 million. NCIC targets these investments to start-up firms seeking to convert defense-related technologies to commercial markets. About 30 percent of NCIC investments have been in the information technology and software industries, with another 30 percent going to manufacturing industries. The remaining funding has gone to instrumentation measurement applications and other high-technology industries. NCIC also targets firms that have the capacity to attract other sources of private and public financing.

## **Context and History**

The initial plans for NCIC were created in 1992 in reaction to cutbacks and base closures in the U.S. Department of Defense (DoD). Dayton was hit particularly hard, with thousands of jobs lost at Wright Patterson Air Force Base (WPAFB) and the Defense Electronics Supply Center (DESC), and through the closure of Gentile Air Force Station. Ron Wine, vice president for public affairs of the Dayton Area Chamber of Commerce initiated discussions between the Ohio congressional delegation, DoD, WPAFB, and various economic development organizations. The goal was to create a capital fund that would support development of small entrepreneurial firms and mitigate the effects of defense cutbacks.

Established entirely with public-sector funds, NCIC was created as a part of federal defense conversion legislation in 1994. Congress stipulated that funds provided through WPAFB would be part of a cooperative agreement. However, NCIC personnel describe this as a “pass through” arrangement where the Air Force simply channeled the funds to NCIC with no strings or

conditions. The federal money became available before state money did. The federal cooperative agreement funding NCIC was made from 1994 to 1996 and reached a total of \$10 million.

The state made a five-year financial commitment to the program. NCIC was scheduled to receive money from the Ohio state grant agreement through the end of fiscal year 1999 when the total match will equal \$10 million.<sup>23</sup> Because state funds have been involved, the Ohio Department of Development (ODOD) has monitored the progress and activities of NCIC through quarterly reports and through representation on the Board of Trustees. The ODOD also reviewed and approved a start-up plan and operating plan for NCIC.

Congressman Tony Hall (D-Ohio) listed NCIC as one of his foremost legislative accomplishments because it is creating jobs and establishing new businesses. Hall successfully pushed for \$7.5 million to be set aside in WPAFB's 1994 budget to establish the NCIC in Dayton. The rationale presented to Congress for funding NCIC included saving jobs in the Dayton area, cushioning the cutbacks blow for defense-related companies, and assisting in preserving critical DoD technologies.

## **Organization**

NCIC is organized as a not-for-profit 501(c)(6) corporation offering debt and equity financing for small and medium-sized technology-based businesses in Ohio and Indiana.<sup>24</sup> NCIC consists of five employees. Its executive director has served on many Dayton area boards related to business, entrepreneurship, and venture capital. The vice president is an accountant who previously worked as a general manager and chief financial officer in the private sector. NCIC's manager of business development is a certified economic development professional who has managed loan portfolios in excess of \$30 million. He serves on the boards of a regional venture capital association and a statewide economic development corporation. The manager of technology is an engineer with extensive experience managing private-sector technology development projects. NCIC's administrative manager formerly worked at WPAFB.

In addition to its venture funding, NCIC also works with WPAFB and the Wright Laboratory Technology Transfer Office to commercialize technologies available at WPAFB and other sources. There is a similar contract in place with the National Institute for Standards and Technology's Miami Valley Manufacturing Extension Center.

At present, NCIC funds come from the following sources: a federal grant (via a cooperative agreement between WPAFB and NCIC), a state of Ohio grant agreement, an Ohio loan program, state of Indiana loans, principal repayments, program income, interest on deposited funds, and application fees.

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<sup>23</sup> By early 1999, the state of Ohio had appropriated \$7.5 million to fund NCIC.

<sup>24</sup> To date, all investments have been made in southwest Ohio.

## The Practice in Operation

NCIC's client firms typically have fewer than 10 employees and less than \$500,000 in funding. Roughly 46 percent of NCIC firms are in the start-up stage of development where the technology has proven productive (that is, there is some evidence that it can produce a revenue stream) and it is being introduced to a wider industry audience. However, many clients are at earlier stages of development.

Companies seeking direct investment from NCIC are encouraged to meet with NCIC and/or submit an executive summary of their business plan for a preliminary assessment. The formal review process begins once an interested firm submits a complete business plan, including a description of the business, historical and projected financial statements, resumes of the management team, market assessment, and a marketing or sales plan.

All business plans are assigned to one of the NCIC professionals for review. Two key factors at the initial stage of the evaluation are (1) the completeness of the business plan (generally whether it addresses business, management, and marketing elements of the enterprise in addition to the technological dimensions), and (2) whether the business is consistent with the industrial profiles NCIC seeks to fund<sup>25</sup>. Regular meetings are held by the NCIC team to determine if it wants to pursue discussions with the company. To date, over half of the 427 applicants have been turned down at this stage. An initial rejection does not mean that NCIC will not consider a deal again. If the business plan needs further development, NCIC will advise the applicants of any gaps or limitations and attempt to link them with resources that can provide assistance. Frank Winslow, president of NCIC, explained in a July 1995 interview that "It's not a process of 'You flunked, go away.' A whole lot of nurturing is involved."

If NCIC is willing to explore a business plan, a more formal "due diligence" evaluation is undertaken. Roughly 39 percent of all applicants reach this stage, which may involve more than one person at NCIC. NCIC conducts a background check of the company and its officials, which includes contacting other companies in the applicant's field. A technology review is also conducted to determine if the firm has a sustainable competitive advantage, a proprietary product, and a way of protecting its proprietary claims. NCIC has a task order contract with the Wright Technology Network (WTN) to participate in technology reviews. WTN conducts independent cost evaluations for those investment proposals utilizing WPAFB technologies.

Early in the due diligence process, NCIC attempts to provide an offer sheet so that applicants understand the types of obligations they will assume in accepting NCIC funds. Because NCIC is based on public funds, some applicants view NCIC funding as a government grant program, and are discouraged by the offer sheet. Although the financing terms are often more favorable than those provided by a venture capitalist, they are also more demanding than those offered by a bank loan. Most terms include deferred payment of the principal and interest until the firm starts

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<sup>25</sup> In a July 1995 article by Gene Fox in the *Dayton Business Reporter*, NCIC President Frank Winslow, describes this limitation. "You really need to come in with a more complete, better thought-out business plan that addresses the whole management, market aspect, as well as the technology."

generating sales. Similarly, because most financing has been through loans, repayments have been structured so that they are based on royalties from sales, an easier method for small firms.

Only about 10 percent of the applicants emerge from the due diligence process to go to the NCIC Investment Committee for review. This is a committee of the NCIC Board of Trustees composed of voting members, and it makes the final determination concerning financing. At this stage, NCIC personnel and the applicant will present the business plan and the terms of the proposed financing. Evaluation takes about three to four months from business plan submission to a final funding decision.

If the project is approved, NCIC sends a commitment letter to the applicant and closes the deal. To date, roughly half of the applications presented to the NCIC Investment Committee have resulted in closed deals (roughly 21 financings). In some cases, firms withdraw their application when the final terms are offered. In other cases, negotiations still await completion.

## Results to Date

As of November 1998, NCIC received 427 business plans. Of those, over half failed the initial screening stage. About 39 percent of all the business plans submitted went through the entire formal review process. This resulted in 43 of the original 427 plans being reviewed by the NCIC Investment Committee. Of these, 21 have received financing. To date, one firm has completely repaid NCIC, and NCIC has also taken an equity position with one firm.

There is some indication that interacting with NCIC may be helpful in securing other sources of funds. At least 59 other businesses received venture capital or private investment following NCIC staff review, evaluation, and business plan assessment. There are also at least 63 businesses that received bank financing. At least 39 businesses coming through NCIC's doors have received STTR, SBIR, ATP, or other grants since their involvement with NCIC.

Other than providing financial assistance, NCIC has served a considerable number of firms through its evaluation and assessment services. NCIC has linked many businesses to other services, including federal and state technology transfer services, manufacturing assistance, marketing assistance, and business development programs. Although there are no numbers documenting this activity, NCIC views it as a critical mission.<sup>26</sup>

Despite being a venture capital fund, NCIC has mostly engaged in debt financing and not equity financing.<sup>27</sup> Legal complications associated with using state funds have made NCIC reluctant to engage in equity financing deals. A recent opinion issued by the Ohio attorney general has

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<sup>26</sup> In the July 1995, *Dayton Business Reporter* story, Frank Winslow laid out two criteria for evaluating NCIC: "What successful enterprises (has it spawned), or help grow. And on a lesser scale, but also important, what kinds of broad assistance (has it) put in place, or (brought) resources in general to businesses."

<sup>27</sup> Of the 20 NCIC financing deals made by early 1999, one involved an equity investment. At that time, NCIC was also preparing to make another equity investment.

opened the door for NCIC to enter into equity financing arrangements and accept and use equity interest returns. This opinion should increase the number of NCIC equity financing deals.

## Conclusions

NCIC was a direct response to defense cutbacks, and the product of a concerted local effort to build an effective mechanism to fund new industry to replace military jobs. The Dayton area was struggling to find a response to large-scale defense cutbacks, and the federal government was eager to mitigate the local impact of defense cutback decisions.

One aspect of NCIC's success has been its autonomy. The widespread support it enjoys from voting board members from private industry and public-sector economic development organizations prevents NCIC from becoming subsumed by state and local political issues. However, NCIC recently has had to make political appeals to maintain its autonomy, such as in the equity investment opinion issued by the Ohio attorney general. NCIC is considering creating companion funds that draw on private-sector funds to give it more financial freedom.

Another factor in NCIC's success has been its adoption of private-sector processes and capabilities. Examples include NCIC's screening processes, the financial industry and technology experience of its staff, and its use of activity tracking to gauge performance. The resulting organization bears closer resemblance to other venture capitalists in the state than to other economic development organizations.

## Chronology of Milestones

- 1994** NCIC established with federal appropriation of \$10 million distributed through Wright Patterson Air Force Base.
- Ohio legislation HB 715 to establish and provide matching funds for NCIC became effective. Defense Conversion Assistance legislation appropriated \$7 million for NCIC.
- 1995** NCIC established and operated under a 120-day start-up plan.
- State of Ohio accepts the NCIC operating plan and budget.
- NCIC awards its first loan to PhytoLife Sciences, Inc.
- 1997** Request submitted to the Ohio attorney general to enable a not-for-profit organization to use state funds for equity investments.
- 1998** NCIC gained approval to enter into equity investments in an opinion from the Ohio attorney general.

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## Web Sites

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<http://www.ag.ohio.gov/opinions/1998/98-034.htm> is the Web site for the Attorney General, State of Ohio. Opinion No: 98-034 re: equity investment issues to Joseph C. Robertson, Ohio Department of Development. September 16, 1998.

## **Case Study: Project Mercury**

### San Diego, California

By Gordon Kingsley

#### **Overview**

Project Mercury is a full-service, small-business assistance program for entrepreneurial high-tech companies in San Diego, California. The project, operated by the San Diego Regional Technology Alliance (SDRTA),<sup>28</sup> has a long-term focus on companies engaged in the early stages of technology development. Project Mercury helps these firms develop business plans, and locates investments or technology development grants that will enable young companies to bring technology-based products to commercial markets.

The project also utilizes advanced Internet applications to deliver services effectively to entrepreneurs and small technology businesses. Traditionally, SDRTA administered matching grants from the state of California to stimulate technology development. Project Mercury's "Virtual Incubator" and other Web applications utilize the Internet to complement its traditional services by facilitating interaction between small companies and investors, and to link small companies with service providers.

#### **Context and History**

Cutbacks in defense spending in the late 1980s and 1990s hit California very hard. The combination of cutbacks in defense-related businesses and closures of military bases was magnified in cities such as San Diego that had few other economic engines on which to build. From this experience, business and political leaders learned the value of diversifying their local economy.

In 1994, SDRTA was created to convert and commercialize defense-related technologies. SDRTA selected eight technology-based industry clusters for development: biomedical products, biotechnology and pharmaceuticals, communications, computer and electronics manufacturing, defense and transportation manufacturing, environmental technology, recreational goods manufacturing, and software and computer services. SDRTA staff also served as the regional administrator of the California Technology Investment Partnership (CalTIP), a state matching-grant program designed to attract federal funds.

Project Mercury was developed in 1997 to expand the service mission of SDRTA beyond that of finding and funneling public money for defense conversion. Project Mercury was part of a larger reorganization of SDRTA that coincided with the hiring of a new executive director. The governing board was reconstituted to increase private-sector representation. In addition, the mayor and the head of the Economic Development Corporation were added to the board.

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<sup>28</sup> The name Project Mercury represents the ancient Roman deity Mercury, who was both the messenger of the gods and the god of commerce. Each of the three RTAs serves a geographic area. They are located in the San Francisco Bay Area, Los Angeles, and San Diego.

Toward the late 1990s, small firms had difficulties attracting seed capital because San Diego venture capitalists became more adverse to risk and more focused on larger deals. Project Mercury added more services to help small San Diego technology firms obtain seed capital. These services were designed to raise San Diego technology firms to the point where they could attract funding from other sources.

## **Organization**

SDRTA is a not-for-profit 501(c)(3) organization. The California Trade and Commerce Agency's Office for Strategic Technology (OST) sponsors and works with SDRTA through its Goldstrike Partnership. Through the Goldstrike Partnership, the OST also administers programs that provide cash matches to leverage private and federal dollars for technology development and commercialization, particularly in response to defense industry conversion.

Operating funds for SDRTA come from the state of California and federal granting authorities such as the U.S. Economic Development Administration. The organization has a staff of four, and its governing board is composed of a broad base of executives from small start-up and established high-tech companies, leading financial institutions, the academic community, and local government.

## **The Practice in Operation**

Project Mercury receives referrals of entrepreneurs and very small (fewer than 10 employees) technology-based businesses from SDRTA, other San Diego business development organizations, and trade associations. Project Mercury provides free business assessments and planning services, identifies business and financial needs, and identifies the appropriate service providers for its clients. The staff of Project Mercury have experience, according to the project Web site, in "navigating the acronyms and codes which confront the high-tech start-up company seeking funding, including SBIRs, STTRs, CalTIP, SBFDCs, 504 Debentures, 7(a) loans, revolving loans, angel capital, SBICs and VCs."

Project Mercury also operates the CalTIP matching-grant program. CalTIP seeks to increase the competitiveness of California companies applying for federal technology development grants. CalTIP awards up to \$250,000 per firm. The match provided through CalTIP cannot exceed 25 percent of the project cost, and a minimum of 20 percent of the project's cost must be covered by the federal government. For projects to qualify, most of the funds must be spent in California. Applications for CalTIP funds are evaluated through a formal scoring process that emphasizes the potential impacts of the project and the likelihood that the project will be successfully completed. Project Mercury recruits local firms to apply to the program, evaluates proposals, and monitors the progress of awards.

Through Project Mercury, SDRTA maintains a resource network of technology experts, general business service providers, and universities. Suppliers within the network agree to provide at least one hour of free service. The program is in the process of instituting a fee-for-service structure that would include reducing business service fees for small companies through cost-

sharing. Project Mercury markets this program to suppliers by offering “additional due diligence, and an initial screening process that minimizes time spent reviewing unqualified applicants, and enhances qualified deal flow. Companies that participate in Project Mercury increase their probability and degree of success.”

Project Mercury delivers many of its services through advanced Web applications:

- The Company Profile section allows high-tech start-up firms to fill out electronic forms that ask for information about the business. SDRTA captures the information and forwards it to an SDRTA expert who assesses the business endeavor and contacts the companies with recommendations.
- The Investor Alley section facilitates investor searches for equity investments. The section has a listing of client company names, how to contact the firms, any Web site addresses associated with the firms, a brief description of products or technologies, companies’ preferences for form of capital, and brief descriptions of other funding sources the firms have tapped.
- The Technical Assistance section profiles service providers, grouping them into three categories: general business assistance, technical assistance, and financial assistance. Each service provider listing has the name of the company; contact information; the types of services available; and whether services are available free, at a discount, or on a fee-for-service basis.
- The Virtual Incubator channels advice to clients. This is a secure portion of the Web site where clients can post business plans, executive summaries, or requests for advice. Board members or registered industry experts post comments and suggestions, and may receive follow-up questions from clients. SDRTA staff moderate the electronic conversation.

## **Results to Date**

There are now 11 client firms listed in Investor Alley of the SDRTA Web site. They represent a wide range of industry sectors, including multimedia (two firms), pharmaceuticals, software (two firms), metallurgy, biomedicine (two firms), and environmental technologies (two firms).

There are also eight service providers currently profiled in the Technical Assistance section of the Web site that offer the following services: engineering design (two firms), telecommunications and computer system design, marketing, consulting on funding applications, environmental management, and technology development (two firms). In addition, Project Mercury has gathered information on five financial assistance sources and 19 categories of general business assistance providers.

In addition, Project Mercury continues to manage CalTIP matching grants. Since the inception of CalTIP, San Diego has averaged roughly \$1 million per year in matching grants. Project Mercury currently manages \$5 million for the state of California.

## Conclusion

Project Mercury has expanded the outreach of SDRTA by increasing the range of services it offers to its clients. Project Mercury's Web application allows SDRTA to leverage its small staff resources to provide more services to clients. Web-based service delivery is particularly relevant for technology-based businesses accustomed to using the Internet.

Project Mercury's distinctive approach to pursuing long-term business and job growth by developing technology industries is aligned with the needs of its clients. To stimulate technology development, it is often more important to locate grant funding than to generate near-term sales growth. While this approach may forgo shorter-term economic development measures, such as job creation, the program benefits greatly from the longer-term vision of SDRTA. Project Mercury is a key element within SDRTA's broader technology-based economic development strategy that facilitates future economic growth in the region by helping firms in the early stages of development.

## Chronology of Milestones

- 1994** San Diego Regional Technology Alliance (SDRTA) created.
- 1996** San Diego firms received \$800,000 in CalTIP grants.
- 1997** SDRTA created Project Mercury to expand its business services.  
  
San Diego firms received \$1.1 million in CalTIP grants.
- 1998** San Diego firms received \$1 million in CalTIP grants.  
  
SDRTA reorganized its Web site to include Project Mercury and the Virtual Incubator.

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**Web Sites**

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<http://www.goldstrike.net> is the Web site for the Goldstrike Partnership, a program of the California Trade and Commerce Agency's Office of Strategic Technology (OST).

## **Case Study: Winchester Technology Zone**

### Winchester, Virginia

By Alfie Meek

#### **Overview**

The Winchester Technology Zone uses tax incentives targeted to technology businesses to revitalize historic downtown Winchester, Virginia. It was created in response to the Virginia Technology Zone legislation passed by the Virginia General Assembly in 1996. Unlike the traditional state-sanctioned enterprise zones, the technology zone allows communities to specify an area of up to 125 acres, in which they can offer targeted incentives and local tax breaks to technology companies. There are no state tax breaks or incentives offered in the technology zone that would not be available elsewhere in the state.

The Winchester Technology Zone is the first in the state to take advantage of this new legislation. The technology zone is approved by city ordinance, overseen by the Old Town Development Board, and marketed by the Winchester - Frederick County Economic Development Commission (EDC).

Winchester chose to define its technology zone around the downtown historic district. In doing so, it created an uncommon mixture of historic real estate and modern technology. This combination allows Winchester to capitalize on its proximity to Washington, D.C., to build a base of technology companies in its formerly declining central business district. An added advantage is that as companies move into the historic district, they renovate the buildings and work with the city's Board of Architectural Review to retain the district's historic facade. This resulted in high-tech jobs and a much-needed renovation and restoration of the historic downtown district.

#### **Context and History**

Winchester is situated in the extreme northern tip of Virginia, bordered on two sides by West Virginia, and located 90 minutes from Washington, D.C. In 1996, Frederick County and Winchester had a combined population of nearly 76,000 people and per capita personal income of \$22,346, slightly below the national average of \$24,436.

As was the case with many small downtown areas in the country, Winchester's historic downtown district was threatened by the effects of a changing society. First, suburbanization carried people away from downtown for shopping, dining, and entertainment. Suburban shopping malls offered (1) many stores under one roof, (2) an abundance of parking, and (3) hours convenient for work-weary shoppers. By the 1980s, TV shopping networks and a rebirth of catalog shopping, were encouraging convenient, stay-at-home shopping.

The 1990s brought a new threat to downtown areas—the Internet and online shopping. However, Winchester decided to use this trend to its advantage by attracting technology companies to the

downtown area using its telecommunications infrastructure and proximity to the Washington, D.C.- area NetPlex—the hub of Internet development in the United States and home to companies such as America Online and UUNet. The result was a unique work environment for technology companies and a revitalization of the downtown economic base.

The idea began in September 1993 when the first federal telecommuting center – the Shenandoah Valley Telecommuting Center – began operation in downtown Winchester. The center was managed by the U.S. Army Corps of Engineers under a three-year pilot program assigned to the General Services Administration’s Cooperative Administrative Services Unit (GSA CASU), and provided 24 workstations where more than 70 federal employees could telecommute. While trying to attract the telecommuting center, the EDC discovered that the city had some extraordinary telecommunications infrastructure that offered a competitive advantage in the telecommunications area. This infrastructure included two SONET rings, multiple digital switches, OC-48 fiber optic transmission along the I-81 corridor, and a Point-of-Presence (POP) in the city and another one 30 minutes north.

The EDC felt that Winchester needed more than good telecommunications infrastructure and proximity to the NetPlex to maintain a competitive advantage with respect to technology companies. In 1995, the EDC applied to the Virginia Department of Housing and Community Development for Winchester to become an enterprise zone so it could offer incentives to businesses that located downtown. However, in October 1995, the application was rejected. The following spring, the Virginia General Assembly passed legislation similar to the enterprise zone legislation, with the following exceptions: (1) the geographic area (the technology zone) was established to give incentives to technology companies; (2) there were no state income tax credits; and (3) a technology zone was created by local ordinance, not state approval.

With the new incentives, Winchester began to move toward creating its technology zone. It was thought that the Shenandoah Valley Telecommuting Center could be opened up to the private sector and become a more broadly defined resource for the region and the centerpiece for the technology zone. In June 1996, the GSA CASU approved a one-year transition period to identify (1) a future management structure and (2) other sources of income to make the center self-sustaining. To assist the transition from the pilot program, the EDC assumed management of the telecommuting center in October 1996.

In December 1996, the city council passed the Technology Zone Ordinance, and in January 1997 the Technology Zone Committee (TZC) was formed. In early 1997, it was decided that a limited liability corporation (LLC) would be the optimal organizational structure to manage the telecommuting center, and the Shenandoah Valley TeleBusiness Center (SVTBC) was proposed. The SVTBC would operate the telecommuting center, (which would be open to the private sector) and would also offer other services, such as computer training and video conferencing facilities, to help make it solvent. The LLC was made up of several local business people who invested their time or money.

Beginning in fall 1997, a series of town meetings and presentations to area civic groups and organizations promoted the technology zone locally. In December 1997, the SVTBC was officially incorporated as an LLC, and although the official marketing of the zone did not begin until April 1998, the first firm to move into it, Judd's OnLine, was announced in January 1998.

## **Organization**

The Winchester - Frederick County EDC has been responsible for marketing the Winchester Technology Zone to new businesses. The EDC was formed in 1982 by the city of Winchester and Frederick County for the purpose of "fostering an efficient and cooperative effort toward establishing economic development goals and strategies to meet these goals for the Winchester-Frederick County area."

The EDC's 1998-99 economic development strategy (revised annually) consisted of three program areas—existing industry development, business attraction, and tourism. The annual budget was \$670,000 of which approximately 75 percent was funded by local public dollars. The commission comprises 15 members representing both the city and the county. The staff consists of three full-time persons and one part-time assistant. Other committee participation brings approximately 70 persons to work on the community's economic development strategy. Much of the strategy is implemented through other interested organizations, such as the chamber of commerce and the historical society, on a contractual basis.

## **The Practice in Operation**

The Winchester Technology Zone is composed of 125 acres in Winchester's historic downtown pedestrian mall district. The district offers technology companies what city officials believe is the best of two worlds — state-of-the-art telecommunications infrastructure and an attractive quality of life in a historic downtown district.

Marketing of the technology zone is primarily done through a Web site (located at <http://www.techzoneva.org>) that provides information ranging from labor survey results to available historic buildings. The EDC also has identified more than 100 qualifying businesses in metro Washington, D.C., and has engaged in a direct-mail marketing campaign to those businesses. It also promotes the zone at various festivals and community events.

Zone incentives include a rebate on a percentage of utility tax on local telephone, electric, and cable television usage. Further, qualified technology businesses are exempted from a percentage of the business, professional, and occupational license taxes and fees normally imposed by the city of Winchester. The amount of each type of rebate or exemption is a percentage of that tax due by the qualified technology business each year. The percentage rebated or exempted is 100 percent in year one, and decreases by 20 percentage points annually for five years. Land development fees, such as building code fees, water and sewer availability charge, zoning ordinance fees, and subdivision ordinance fees, also can be rebated for a period not to exceed 24 months from the date that a qualified technology business occupies the property in question. However, the rebate only applies if the qualified zone resident demonstrates that at least 40

percent of the cost of expansion or rehabilitation of real property is to house or to accommodate a qualified technology business.

To qualify, the company must have a minimum of three employees and an investment of at least \$10,000, or within the first year of operation be a part of a microenterprise loan program or incubator. Beyond this requirement, any business whose gross receipts are derived from computer hardware, software, or telecommunications sales, leases, licensing, or services and for which the computers or telecommunications is used to provide sales, leases, licensing, or services directly to the customer can qualify. Examples include Internet service providers, software design and development companies, multimedia content developers, hardware design and development companies, and long-distance video service companies. Qualified companies could also include retailers with sales made via the Internet in addition to customers physically coming to the retail establishment. Other examples of qualified businesses are credit card authorization centers, retail catalogue sales centers, hotel or airline reservation centers, and telephone company operator, repair dispatching centers, or sales centers.

### **Results to Date**

The first company to announce it was moving into the Winchester Technology Zone was Judd's OnLine, a division of Judd's, Inc., which designs and builds high-end, revenue-generating Web sites. Its current clients include country music star Reba McEntire and decorator Martha Stewart. The company employs 60 people and now occupies a formerly dilapidated historic building downtown. The building has had \$750,000 in renovations and is filled with dozens of computers, 25 Web servers, and various types of networking equipment. According to Richard Warren, senior vice president for strategy, sales, and marketing for Judd's OnLine, moving into a historic building was important because those who work in high-tech industries often need to deal with "real" things that are tangible and permanent.

The second company to announce a move into the Winchester Technology Zone was CFW Communications, which will operate a directory assistance center out of the historic Taylor Hotel in downtown Winchester. The company provides directory assistance for AT&T and GTE Mobilnet customers and will employ 250 people around the clock, seven days a week, in the Winchester center. The project also will include a retail store on the first floor that will sell mobile communication equipment. CFW is expected to invest almost \$5 million in downtown Winchester, and it will work with the city's Board of Architectural Review to develop a facade plan that will "keep the spirit of the Taylor Hotel." Many Civil War photographs of Winchester show this facade.

The most recent announcement for the Winchester Technology Zone came on March 29, 1999. Virtual Training Company (VTC), a California firm that produces training CDs for computer software programs, is moving its corporate headquarters from Silicon Valley to Winchester. According to VTC president Mark Vernon, one of the major attractions of Winchester was the "unusual marriage of history and technology." VTC was also impressed by the "progressive nature of the city government" and the fact that officials encourage technology businesses to locate with targeted tax incentives.

## Conclusions

The Winchester Technology Zone has focused on technology companies by offering targeted incentives and leveraging telecommunications infrastructure, rather than use a traditional “shotgun” approach of offering generic incentives to any company that comes to town. By attracting technology companies to its historic downtown, the city also accomplished the goal of downtown revitalization in a fashion that brought the 19<sup>th</sup> and 21<sup>st</sup> centuries together.

To some extent, the presence of the historic downtown district offers an attractive environment for employees of high-tech companies. However, program management has not found an historic work environment to be as essential as targeted incentives and telecommunications infrastructure to the technology zone’s ability to attract technology-based companies.

Admittedly, over the last six years several advantageous decisions were made that laid the ground work for the technology zone. Without the introduction of local-call Internet access in 1994, Winchester could not have attracted quality technology companies to the area. The replacement of the federal telephone system and computer network in the Telecommuting Center in 1998 was another important event that contributed to the technology zone’s success. However, it really took the concerted effort to establish targeted incentives and marketing for the technology zone to pay off in new jobs in downtown Winchester.

With the communications infrastructure in place the technology zone must now focus on rehabilitating historic downtown real estate, improving the electrical infrastructure, upgrading the Internet bandwidth, increasing the availability of technical services downtown, and assessing workforce skills needed by technology companies.

## Chronology of Milestones

- |                       |   |
|-----------------------|---|
| <b>Spring 1992</b>    | Winchester-Frederick County Economic Development Commission began an effort to establish a federal telecommuting center in downtown Winchester. |
| <b>September 1993</b> | Shenandoah Valley Telecommuting Center opened in downtown Winchester.   |
| <b>September 1994</b> | Local Internet access at local-call cost provided to downtown Winchester by a private-sector Internet service provider.                         |
| <b>October 1995</b>   | Enterprise zone application for downtown Winchester rejected by the Virginia General Assembly.  |
| <b>Spring 1996</b>    | Technology Zone legislation passed by the Virginia General Assembly.  |
| <b>October 1996</b>   | EDC assumed management of telecommuting center to achieve transition from pilot program and replacement of telephone infrastructure.            |
| <b>December 1996</b>  | Technology Zone Ordinance passed by city council.   |

- January 1997** Replacement of federal telephone system, and Internet access began.  
Technology Zone Committee formed.
- September 1997** Technology Zone town meetings began.
- October 1997** Telebusiness and telecommuting center business plans developed, and GSA contract for services extended for fiscal year 1998.
- December 1997** Shenandoah Valley Telebusiness Center incorporated as a limited liability corporation
- April 1998** Marketing of the Technology Zone began.
- October 1998** First company to fully qualify under the Technology Zone legislation located in the Winchester Technology Zone.

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Sundrla, Lise. "Downtown Winchester — Where Old Town Meets CyberStreet" *Virginia Review*, March/April 1997.

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### **Web Site**

<http://www.techzoneva.org> is the Web site for the Technology Zone.

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## **Application of New Technology/Internet**

The Internet and computing technologies have advanced in the 1990s. Some local economic development organizations have sought to find ways to harness the power of these technologies by developing new applications that automate labor-intensive operations. These organizations find that such applications improve service delivery and make internal operations more efficient. These applications have also been used to market their capabilities and locations to business and industry.

### **City of Vallejo Economic Development Information System (VEDIS), Vallejo, CA**

Summary. VEDIS delivers real estate information over the Internet to unserved groups. It also provides demographic and economic market analysis to maximize the system's use as an economic development tool. The system is operated by the city's economic development division.

Lessons Learned. The development of the information system was shaped by two major elements. The first element was the city's use of an outside consultant and off-the-shelf software, making it possible for the city to introduce the tool in a very timely manner without having to invest in development resources and in-house expertise. Second, the involvement of private sector developers and commercial realtors in the design of VEDIS and the decisions concerning its content has significantly enhanced its usefulness.

### **Grant County Economic Development through the Internet, Fennimore, WI**

Summary. The county partners with a local university and an agricultural extension service to create an information partnership. The partnership uses a Web site, which provides information, services, and access to global markets and resources to help local businesses.

Lessons Learned. The key lesson has been that data development can be decentralized but integration is still required to promote learning.

### **The Pueblo-Durango Internet Partnership, Pueblo, CO**

Summary. The partnership among the two Colorado cities and two research institutes introduces businesses to the marketing capabilities of the Internet. Through the use of each other's web sites, the four partners borrow ideas from each other to enhance their own presence on the Internet. The partnership was largely supported by an EDA grant to the university partner.

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**Lessons Learned.** The partnership was successful in adapting to the fast pace of technological change and realizing how this change altered client needs. One key to this success was the strong, cohesive work team among the partners that included technologists from each partner organization.

### **Smart Permits: A Program by the Joint Venture: Silicon Valley, Silicon Valley, CA**

**Summary.** This regional effort consists of a series of cross-jurisdictional reforms, to make the electronic processing of building permits faster and more efficient. The initiative is part of a public-private network, covering three counties and six pilot cities, heavily dependent upon the joint efforts of the partners.

**Lessons Learned.** The success of the program is most likely to be highest in areas where: 1) industry competitiveness is heavily determined by rapid production changes; and 2) the production changes require expansion or modification of physical facilities.

### **Smart Connections Center, Aberdeen, SD**

**Summary.** The center is an incubator for telecommunications-based businesses and is part of a local initiative organized by a public/private partnership of community and regional organizations, coordinated by a local council of governments. The center also offers services to educators, health care professionals, wholesale and retail businesses, manufacturers, and the general public.

**Lessons Learned.** The most interesting aspect of the center is its integration of economic development objectives: incubation efforts use the same communications resources that are the basis of a larger strategy to diversify the regional economy by concentrating on information technology industries. Success also stems from the local business, government, and education communities sharing a common interest and pursuing grant and contract opportunities.

### **Southern Mississippi Planning and Development District (SMPDD) Internet Site, Gulfport, MS**

**Summary.** The site provides regional economic development information by providing information regarding local conditions for business development, displays Geographic Information System (GIS) maps of the county on the Internet, and provides direct services (e.g., loan processing). The district, a quasi-governmental non-profit corporation serving 15 counties and 37 municipalities, is one of ten in the state created as a regional service delivery unit.

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Lessons Learned. The district found that Web page applications could be developed in-house, taking advantage of low-cost, off-the-shelf software. Efforts to link local county and municipal governments produced enhanced partnerships among the local governments in the region. These conditions must be sustained to assure the continued success of the site.

# Case Study: City of Vallejo Economic Development Information System (VEDIS)

Vallejo, California

By Richard Tate

## Overview

The Vallejo Economic Development Information System (VEDIS) is an Internet-based geographic information system (GIS) application for real estate, planning, and economic development. It allows real estate agents to directly enter information about available properties in Vallejo. And, it offers businesses, developers, residents, and other interested parties to access this information, as well as data on redevelopment project areas, traffic counts, demographic data, and business lists. VEDIS allows interested parties to search the city's database for an available property for their business or organization based on a desired size and use of the property. It also offers access to demographic and economic data. Demographic and business reports can also be created for an area by selecting a radius around an address and then selecting the type of report desired, such as population characteristics, consumer expenditures, or business categories.

The immediate goal of VEDIS is to fill vacant properties and expand the local tax base. The city's longer-term objectives for VEDIS are to contribute to increased employment and a more diversified economy.

VEDIS benefits the city by improving economic development services that expand information services and access. VEDIS also saves staff time. Before VEDIS, the city staff maintained a limited inventory of vacant commercial property that was updated biannually. The system was cumbersome, often outdated, and required staff time to update as well as to call real estate brokers when no property was found in the database. Because VEDIS allows real estate agents to directly enter information about available properties into the system, staff can answer questions about vacant commercial property in a matter of minutes. In addition, VEDIS simplifies the system for clients by consolidating lists of available properties and providing tenant leads to prospects.

## Context and History

After 112 years of operation, the nearby Mare Island Naval Shipyard closed in 1996, resulting in the loss of 15,000 jobs, \$668 million in economic output, and \$553 million in earnings. While economic development had long been part of the Vallejo's strategy, it now shifted to a top priority. Other San Francisco Bay Area cities, such as nearby Oakland and Alameda, also were scrambling to recover from base closures and build new businesses in their communities.

Vallejo officials turned to Pablo Monzon of GIS Planning, Inc., a consulting firm in nearby Berkeley, to develop an Internet GIS application. Using approximately \$40,000 in city redevelopment funds, the company designed VEDIS in about three months and had it ready for

public use in about six months. Focus groups from the real estate community and input from city staff were used to decide on the fields of information and standard forms for property entries and descriptions as they would appear on the Web page. Development of the database was facilitated through a one-hour session in which the application was introduced to Vallejo real estate professionals. The city purchased demographic data, street maps, and mapping software from commercial vendors.

## **Organization**

The Vallejo Economic Development Division is responsible for maintaining the system and updating the demographic and business analysis data. The property database is updated on-line by real estate brokers. The business analysis data is updated four times per year and is two quarters behind “real time.” Anatalio Ubalde, a community development analyst, performs ongoing maintenance (generally minimal) while all staff members participate in generating and implementing ideas for VEDIS.

VEDIS has a monthly maintenance budget of approximately \$200 plus \$1,500 per year to update the demographic information. This budget does not include staff costs because no full-time staff are dedicated to VEDIS maintenance.

## **The Practice in Operation**

VEDIS is targeted primarily at real estate professionals marketing properties and business and organizations looking for buildings or property. Real estate professionals have access to similar private-sector listing services. However, businesses and other organizations do not have such access because these private-sector listing services are only available to real estate professionals. VEDIS not only assists these unserved groups, but is organized in a way that maximizes its use as an economic development tool. Local real estate professionals end up jointly listing properties with VEDIS and private services because of the tool’s value-added economic development capabilities and accessibility to non-realtor audiences.

VEDIS is connected to Vallejo’s Internet home page. Staff or companies interested in locating space for their business can enter their site requirements, such as desired building use and square footage. The Internet application will search the city’s database of available buildings and return a list of all sites meeting users’ criteria. The users can then select the building(s) in which they are interested, and the computer will bring up a map with the location and generate a detailed building summary, including real estate leasing contact information.

After a user identifies a building or address within the city, he/she can generate a demographic and economic market analysis of the surrounding area based on selected variables and a radius of any desired size. The GIS application then calculates and summarizes the census block group data and returns a report to the user. This query can show demographic information, such as population, racial composition, age breakdowns, housing characteristics, and educational attainment. It can also show economic indicators, such as effective buying power data, household income, and consumer expenditures. Because businesses also may be interested in whether

suppliers or competitors are located nearby, the application analyzes the surrounding businesses by a user-selected category and radius of any size.

The database of available buildings is updated on-line in real-time by real estate owners, leasing agents, and brokers who do business in Vallejo. Each listing contains information such as lease or purchase price, square footage and proximity to major highways. This provides business users who are looking for space access a comprehensive database of available buildings or land. Vallejo economic development staff have complete control of and access to all information in the application's database.

Users also can get traffic counts for streets and highways and determine distances to transportation terminals and links to mass transit systems. Information about redevelopment project areas as well as what tax incentives are associated with them also can be found. Companies can send e-mail messages with questions or requests for more information.

Even though the system is less than a year old, Vallejo already has a plan for the improvement of VEDIS. The plan includes an enhancement of existing data, provision of better GIS tools such as thematic mapping, and visual analysis of demographics. In addition, the survey of brokers will be completed annually to document progress and help steer the course of VEDIS' future development.

## **Results to Date**

Although VEDIS has been operational only since mid-1998, property management professionals and businesses that have used the system have already praised the project. For example, bookstore owner Sandie Lynne moved her business to Vallejo based largely on demographic and economic reports. Prior to receiving the report, Ms. Lynne believed that the area was too poor to support a bookstore. Another factor in the decision was that the mapping feature of the database showed no bookstores within the city. Revenues since the store opened are more than twice what they were in the previous location.

Bill Papke, a realtor with Prudential California Realty, has been impressed with VEDIS and the exposure it gives to the city. Through the Web site listing, Papke has received calls from as far away as Honolulu on his properties. Larry Asera, owner of property management and research firm Asera-Pacific, uses VEDIS to access information for his clients because the site saves time.

A fax survey to real estate brokers conducted in December 1998 by the Vallejo Economic Development Division also indicated positive results for VEDIS. About 81 percent indicated that they both had used VEDIS and had properties listed, and 27 percent had received leads directly attributable to the system.

## **Conclusions**

VEDIS provides several benefits for Vallejo's economic development efforts. Automation frees up city staff time to pursue more complicated economic development tasks requiring their

professional skills. In addition, the system puts sophisticated planning tools and data in the hands of small businesses.

The development of VEDIS was shaped by two major elements. Vallejo's use of an outside consultant and off-the-shelf software made it possible for the city to introduce the tool in a very timely manner, without having to invest in development resources and expertise in-house. In addition, the involvement of private-sector developers and commercial realtors in the design of VEDIS and the decisions concerning its content has significantly enhanced its usefulness. Vallejo's experience developing VEDIS demonstrates that any city can build sophisticated planning tools that can improve development services with a relatively modest investment.

## Chronology of Milestones

- |                      |   |
|----------------------|---|
| <b>1996</b>          | Mare Island Naval Shipyard closed after 112 years in operation, making economic development a top priority for Vallejo. |
| <b>December 1997</b> | Design of VEDIS began.  |
| <b>March 1998</b>    | VEDIS application made available to real estate brokers to populate buildings inventory database.                       |
| <b>May 1998</b>      | VEDIS went on-line to the public.   |
| <b>June 1998</b>     | System became fully operational to users and general public with addition of business analysis data.                    |
| <b>December 1998</b> | Real estate brokers surveyed on how they regard VEDIS.  |

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The City of Vallejo, VEDIS (from Web site)

“Internet GIS for Economic Development,” by Anatalio Ubalde. Presented at the 1998 Congress of Cities, Kansas City, Mo.

**Web Site**

<http://www.ci.vallejo.ca.us/ed.html> is the Web site for VEDIS.

# **Case Study: Grant County Economic Development through the Internet**

Fennimore, Wisconsin

By Alfie Meek

## **Overview**

Grant County, Wisconsin, was one of the nation's first rural counties to apply the Internet to regional economic development. Begun in 1994, the Grant County Internet initiative demonstrates the potential utility of the Internet to overcome some of the difficulties associated with both rural and regional economic development. As an early adopter of Internet technology for economic development, the county has also learned many lessons about the strengths and weaknesses associated with using the Internet for rural and regional economic development.

As it has developed, the Grant County Internet initiative has expanded its role as an online point of entry for all of its cities to helping build and maintain their sites and introduce their local businesses to the opportunities available through the Internet. This decentralized approach to building and maintaining a regional Internet presence has helped the county improve and expand its Web content and maintain its Internet presence even after the project's initial grant expired.

Grant County's experience has shown that the Internet can be used effectively in regional economic development. Unlike many other Internet-based economic development efforts, Grant County has enough history to see the impacts of its Internet initiative on the development of its local businesses.

## **Context and History**

Grant County, Wisconsin, is a rural county located in the southwest corner of the state along the Mississippi River. Approximately the size of Rhode Island, the country has 19 incorporated cities, the largest being Platteville with 10,000 people. In 1996, the population of Grant County stood at 49,528, and per capita personal income was \$17,391—well below the state and national levels.

The Grant County Economic Development Corporation (GCEDC) is a countywide economic development organization representing the county's cities and responsible for operating Grant County's Internet site. The GCEDC's other responsibilities include developing and distributing marketing materials, leading efforts to identify and assist business prospects, representing the members as a point of contact for other state and regional development agencies, and assisting with other economic development-related activities relevant to its mission.

In 1994, the National Telecommunications and Information Administration, through its Telecommunications and Information Infrastructure Assistance Program (TIIAP), funded a two-year practical application study to compare how rural and urban areas would use new information technology to assist in communication. Two Wisconsin counties were chosen for the

study—Dane County for the urban area, and Grant County for the rural area. Grant funds were provided to both counties for enhancing communication through technology.

In 1995, the GCEDC formed a partnership with the University of Wisconsin - Platteville (UW-Platteville), and the Grant County Office of the University of Wisconsin Extension Service, which became known as the Wisconsin Community Information Partnership (WiCIP). The partnership evaluated ways that Grant County could use this money to enhance communication in the county, focusing on three primary groups—local communities, business prospects, and tourists. Initially, WiCIP implemented an information fax-back system to improve countywide communications between these groups.

Shortly after GCEDC implemented the fax-back system, the Internet emerged as a more practical tool with the introduction of Internet browsing software. This prompted WiCIP, in mid-1995, to recommend GCEDC begin building a regional Web site.

The original Web pages appeared in June 1995, primarily developed and managed by the UW-Extension resource agent in Grant County. Known as “GRANeT” (pronounced “Grant net”), the site was designed to be an Internet entry point to every city in Grant County. In early 1996, GCEDC created a prototype Web site for each city, with a consistent look and feel across the entire site.

In early 1997, the original two-year TIIAP grant expired, and some key project staff at UW-Platteville and the county extension office left their positions. James Schneider, executive director of the GCEDC, assumed management of the Web site.

To maintain the regional effort, Schneider reassessed the way the site was run and took several steps to ensure that it continued to improve and leverage the potential of the Internet for the regional economy. Recognizing that maintaining information for each city was not only resource-consuming but also not as efficient as each city maintaining its own information, GCEDC increased its efforts to help local cities build and maintain their own Web sites. As the GCEDC took over site management, it became a regional Internet resource for both cities and businesses in addition to the one-stop Internet site for economic development information on Grant County.

## **Organization**

The GCEDC was established in 1986 to assist the communities of Grant County in their efforts to create jobs and attract dollars to and keep them in Grant County. The GCEDC is funded jointly by the county and the communities on an annual voluntary membership basis. For 1999, the budget is approximately \$100,000. Currently, 14 of the 19 incorporated cities in Grant County are members, and the GCEDC is governed by a 17-member board of directors appointed by their respective governments. Staff consist of a full-time executive director and a full-time executive assistant.

## **The Practice in Operation**

GCEDC's Internet initiative has grown to become a central Internet-based economic development resource for cities in Grant County. GCEDC provides a single point of entry to the county and its city Web sites, but also works with the cities so they can provide technical assistance to their local businesses on building a Web presence to capitalize on access to the global market the Internet provides.

The Grant County Web site remains the county's one-stop site on the Internet for economic development-related information and services. The GCEDC encourages each city to build and maintain current information relevant to businesses looking to relocate or expand. Several cities have created their own sites with a particular look and feel consistent with their goals, while others have yet to create their own site. For the latter, their link opens a page that offers basic information relating to their tourism industry, business environment, and government.

The GCEDC encourages cities without their own Web sites to create and maintain them. It provides technical assistance to help cities establish a Web strategy; and to identify local, professional Web designers. It also offers to host the finished Web site. The GCEDC even extends these services to include non-member cities to present the entire county to the world.

The other part of this practice is GCEDC's effort to help local businesses access global markets and resources through the Internet. The GCEDC helps build awareness of what Grant County businesses have to offer the global market, linking with the state of Wisconsin and other larger resources for potential business prospects. GCEDC also works with local cities to help them encourage their businesses to utilize the Internet to expand their markets beyond Grant County.

Another regional service the GCEDC provides is AlumniNet. When the county discovered that 60 percent of its high school graduates live more than 60 miles away, it created AlumniNet to provide information to those alumni on activities in Grant County and to encourage them to consider returning. AlumniNet provides current job openings through links to Wisconsin's JobNet and local business Web sites. Also, this year the GCEDC will cross state lines and enter into a partnership with Dubuque, Iowa, to provide access to Dubuque's successful Job Quest program and links to local services related to relocation, such as real estate agents. In 1998, over 9,000 Grant County alumni were contacted in an effort to attract them back to the county.

## **Program Outcomes**

The success of Grant County's Internet initiative is shown most clearly by its continued operation after its initial two-year grant expired. The GCEDC's Internet site enables the county to perform regional economic development functions more effectively than it could before. Not only has it improved the region's ability to provide economic development information on par with much larger urban localities, it also has improved communication and cooperation among the county's cities. The site has evolved over time and successfully incorporated lessons learned to become a more effective regional economic development tool.

As a result of Grant County's early, proactive use and promotion of the Internet, the county achieved local Web access ahead of most other rural Wisconsin areas. This early adoption has led to benefits including new business attraction, growth of existing businesses, and increased tourism. For example, in Tennyson, the "local" hardware store – Walsh's Ace Hardware – has gone "global," selling Milwaukee-brand tools internationally. For a bed-and-breakfast in Cassville, 50 percent of its business now comes as a result of Web contacts. And, the Fennimore Doll and Toy Museum received donations of dolls used as models for animation in two successful full-length animated movies. A creative animator working on those films found the museum on the Internet when he was looking for a place to donate the dolls.

Grant County's success and experience also encouraged an effort to build a regional, multi-county economic development Web site. In mid-1997, the GCEDC helped form a new partnership, the WiCIP - Southwest, to operate a regional Web site covering five counties in southwest Wisconsin. In this new partnership, GCEDC took on the responsibility for developing and creating one Internet portal for the region. Although this regional effort was put on hold in December 1998 because of a lack of funding and difficulties building working relationships among the five counties, the attempt would not have been made at all if not for the GCEDC's success at building an Internet presence in Grant County.

In addition, the emphasis on Internet-based economic development has helped position rural Grant County as a more skilled area. Based on surveys, local hires increasingly are researching Grant County through its Web site before deciding to locate there, and every prospect that has visited the county in the last six months initially visited its Web site. Also, the county's advanced telecommunications infrastructure enables quality of life to play a larger role in the decision of small office and home office operations to locate here, supporting Grant County's slogan, "We may be rural, but we're not remote."

In May 1998, the GCEDC acquired the Internet domain name *grantcounty.org*, and plans to move its Web site from the University of Wisconsin to a private Web server during 1999.

## **Conclusions**

Through the process of putting together a regional Web site with several community players, the GCEDC learned several important lessons that can benefit rural communities wanting to follow the example of Grant County. It learned the importance and difficulty in maintaining a Web site. Like most communities, the GCEDC Web site contains volumes of statistical data on its communities, but the effort required to keep that data current is considerable. To address this problem, GCEDC allocates as much ongoing Web site management to local cities as possible.

GCEDC also learned that operating a community Web site is a continuous process. The quality of the county's site design, layout, information, and usefulness improved as it began developing its own identity on the Internet. In addition, GCEDC found that central or regional management was necessary to maintain quality, and to facilitate growth, continuous improvement, and cooperation.

As with any new communications medium, the initial inclination is to deliver the old product via the new medium. GCEDC learned that decentralized regional management could encourage creativity, but that central management was vital to helping local cities learn from one another and avoid the tendency to have their Web sites reflect traditional printed marketing material.

Lastly, the GCEDC learned to view its Web site from the customer's perspective. For example, GCEDC realized that its Web site, designed to provide statistical information, did not need to look pretty if the content was current, well-organized, and easy to understand. In contrast, design considerations for the tourism portion of its Web site were very important.

There are thousands of rural and urban economic development organizations with Web sites today. Too often, there are multiple economic development groups within a region, working separately and duplicating their Internet efforts. Grant County, Wisconsin, is a good example of a rural community that realized early on that the Internet could help its economic development efforts, and it was among the first communities in the nation to have a presence on the Internet. The GCEDC also realized that by bringing its cities and surrounding communities together, it could make their Internet economic development efforts more effective.

## Chronology of Milestones

- Late 1994** GCEDC received two-year TIAAP grant from NTIA.
- Early 1995** Wisconsin Community Information Partnership (WiCIP) formed.
- June 1995** First Web site, GRANeT, went online.
- Early 1996** Templates for city Web sites created.
- Late 1996** Two-year grant ended.  
  
GCEDC decentralized development and maintenance of Web sites to individual cities.
- Mid 1997** WiCIP - Southwest formed to include surrounding counties. Regional Web site proposed and the name "GRANeT" dropped.
- May 1998** Domain name *grantcounty.org* obtained for the Grant County Web site.

## Reference Material

Interview with James Schneider, Executive Director, Grant County Economic Development Corporation, on April 8, 1999.

### Web Site

<http://www.grantcounty.org> is Grant County's Web site.

## **Case Study: The Pueblo - Durango Internet Partnership**

Pueblo, Colorado

By Gordon Kingsley

### **Overview**

While many small businesses keep abreast of developments in information technology, they often find it difficult to harness information technology effectively for business. Many businesses even have an Internet presence, but lack the expertise necessary to use the Internet as an effective marketing or sales tool.

The Pueblo-Durango Internet Partnership was established to help local small companies successfully use the Internet to improve business and grow the local economy. The partnership brought together the Colorado Advanced Technology Institute (CATI), the Computer Science Department of the University of Colorado (Boulder), and the two cities of Pueblo and Durango. Its aim is not only to promote effective Internet usage by small business, but also to build "community lighthouses" where the cities themselves could use the Internet to reinforce and strengthen their physical community of citizens and businesses.

Pueblo and Durango drew from the expertise of the two technical partners while each pursued its own initiatives and learned from the experiences of one another. As a result, the partnership generated a more valuable experience in applying leading edge Internet technology to local economic development than would separate initiatives for each city.

### **Context and History**

Historically, Pueblo has met the statistical conditions for being declared a distressed city by the U.S. Economic Development Administration (EDA). In the mid-1980s, unemployment hovered around 20 percent as businesses fled the area. During this time, the city's major steel mill reduced employment from 5,000 to 1,200. When jobs left town, Pueblo citizens had few options but to move. Pueblo lies in the vast western prairies and has no neighboring towns with an alternative economic base. An even smaller and more isolated city in the nearby Rocky Mountains, Durango faces similar economic conditions. Given their isolation, these are areas where the Internet has real potential for extending market size.

EDA had funded a number of planning grants and dislocation studies for the Pueblo airport industrial park and business diversification in the 1980s and 1990s. During the course of one of these development projects, fiber optic cable was laid down the city's main street. Pueblo economic development officials began wondering how they could use this high-speed, telecommunications infrastructure and the Internet to expand the customer base of local small businesses. Pueblo asked EDA to redirect some of the project resources to encourage small businesses to develop an Internet site.

After reviewing Pueblo's proposal, EDA suggested that the city partner with other Colorado organizations having a similar interest, observing that Pueblo could probably get more funding with such a partnership. Initially, Pueblo officials were concerned about losing control of the economic development effort in the partnership and not achieving sufficient impacts to benefit their companies and citizens. However, the lure of additional funds and the encouragement of EDA persuaded Pueblo economic development officials to participate.

## **Organization**

The partnership formed and first met as a funded group in spring 1997. The Colorado Advanced Technology Institute (CATI),<sup>29</sup> which had the responsibility for preparing the proposal, organized the cities of Pueblo and Durango and the Computer Science Department of the University of Colorado (Boulder) into a partnership. CATI also provided oversight and documentation through an Internet site. The university's Computer Science Department worked on new software that would enable posting information on the Internet without having to translate it into the hypertext markup language (HTML) of the Internet. The cities of Pueblo and Durango provided sites for Internet applications and developed promotional strategies.

The group met every month via conference call and every quarter in one of the two towns. Team members consisted of individuals senior enough in their respective organizations to get the project moving. The personalities of the team members and their technical skills differed widely, yet they formed a cohesive and effective working group because at least one (and usually more than one) person from each organization had a sophisticated understanding of computer programming. For example, a member of the Durango team solved a programming problem that had stumped University of Colorado computer scientists.

Other organizations got involved for specific events sponsored by the partnership. For example, the WebFair in Pueblo also involved Pueblo's Office of Downtown Development, Pueblo County's Department of Information Systems, the Pueblo Small Business Development Center, 22 small-business owners, and 35 Internet-related businesses.

## **The Practice in Operation**

The proposal and award process took roughly a year. By that time, most small businesses had an Internet presence, so the original objective of encouraging businesses to develop an Internet site was no longer necessary. The goal then became to improve the effectiveness of these businesses in using their Internet sites to market their products.

Durango held its first WebFair in May 1997 and Pueblo, borrowing this idea, held its first small-business WebFair in September 1997. Because many businesses depended on family and friends for information about business applications of the Internet, these events were designed to improve the situation by showing businesses how the Internet could help their operations. The

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<sup>29</sup> CATI programs included applied research, industry/university seed grants, product and process development laboratories in which students work with industry, and business incubators. CATI was abolished as of June 1999. A private enterprise, CATI, Inc., has been formed to carry on much of what CATI initiated.

focus of the Pueblo WebFair was on marketing through the Internet. Twelve 1-hour classes were offered on Internet marketing techniques (two classes were conducted simultaneously each hour). The lessons included targeting potential customers through the Internet; tracking site visits, inquiries, and customer orders; and using forms to facilitate business operations. Business service providers and members of the partnership taught the classes. Roughly 250 people attended the WebFair in Pueblo.

The Pueblo WebFair also had booths where companies that specialized in Internet site design and/or marketing could promote their services. Booths were also available from the U.S. Small Business Administration, lenders, and other providers of small-business services. Unveiled at one of the booths was the “community lighthouse” software that the University of Colorado (Boulder) was developing for the project to link Internet design and marketing companies with small businesses and service providers. Pueblo borrowed this concept to use in its own Web site development.

Pueblo’s “mini-grants” of \$500 to \$1,000 were awarded after the WebFair (after Pueblo’s introduction of these grants, Durango also adopted the concept). To qualify, an applicant had to produce specialty goods or services in the region; have a commitment to competitive Web development; seek broader national and international markets and/or customer service; and have business activities related to regional and cultural resources. Pueblo gave out 17 of these grants. The applicants were required to match 25 percent of the award. Companies were not permitted to use the money to create basic Internet sites. They could use the money to create a larger Web site, develop a marketing presence, and use forms to integrate the Internet with their business operations. (No electronic commerce applications were proposed.) The number, small size, and matching requirements made these grants somewhat difficult for Pueblo officials to administer, although they had several anecdotal examples of companies growing in part from the use of funds.

From the start, the two cities had as a goal community and economic development. They wanted to use the Internet to develop community lighthouses on the Internet designed to bring citizens and businesses together as a physical community. To this end, they encouraged the cities to develop new Internet sites for Pueblo and Durango that promoted the community. Included on these sites were calendars of community events, training opportunities for companies and their personnel, grant opportunities, and postings of notes from public meetings.

### **Program Outcomes**

Pueblo economic development officials are quick to point out that the phenomenal growth in use of the Internet and the prosperous U.S. economy make it difficult to claim that this project had significant economic impacts. However, small companies claiming benefits from the development of Internet applications have offered several positive anecdotes.

- A small business in Pueblo that sells teddy bears wanted to take sales above and beyond the foot traffic through the store. The company reported doubling its sales in the first two months after creating an Internet presence.
- An arthritic consultant who lives outside Pueblo set up an Internet site to overcome his disability and promote his services. Pueblo economic development officials worked with him to learn software for voice recognition to enhance his productivity.
- A town near Pueblo that is served by a single major highway was having the highway repaved, which effectively closed access to a commercial mall. The Internet allowed firms in the mall to remain commercially viable during that period.
- After establishing an Internet site, a Pueblo bookstore specializing in Southwestern authors reported an increase in sales of 25 percent, including calls from as far away as Scotland.
- A local artist who does large-scale public art used a mini-grant for professional photographs of his work, which he posted on his Internet site as a marketing device.

In addition to economic benefits, Pueblo has seen improvements in the way economic development is practiced. For example, the partnership prompted the city to change its Internet site. Over time, the site had become scattered with no unifying graphic or theme. The partnership prompted the city to reorganize the site and give it to the chamber of commerce to maintain. The partnership also prompted discussions about whether to allocate economic development resources to foster home-grown enterprises or to attract manufacturing plants.

## **Conclusions**

The Pueblo-Durango Internet partnership found that a multifaceted approach to promoting use of the Internet – involving promotion, training, and financial resources – can successfully attract and sustain the interest of small businesses. Economic development officials in Pueblo felt strongly that great synergies were gained from pursuing the WebFairs, mini-grants, and community lighthouse projects simultaneously. The lure of quick training by reputable state and local institutions, with the added incentive of financial support, proved an attractive stimulus.

Perhaps the most interesting and innovative aspect of this case is how the partnership integrated its pursuit of multiple objectives. For example, Pueblo bought billboard space to advertise the WebFair encouraging companies to “start locally, search globally.” This promotion was highly successful in generating interest in the business community. By doing so, Pueblo also promoted the awareness of business applications on the Internet and the Pueblo “community lighthouse” as a resource for small businesses and entrepreneurs.

The partnership also succeeded in adapting to the fast pace of technological change and realizing how this change altered client needs. One key to this success was the strong, cohesive team work among the partners. Team members had sufficient rank in their organizations and enough experience to marshal the resources necessary to keep the project moving in a timely fashion.

Each partner also had a representative with sufficient computer skills to coordinate technical activities. This involvement of skilled representatives proved invaluable in facilitating the partners' ability to provide these services to clients.

### **Chronology of Milestones**

- 1995** Discussions began between Pueblo and EDA regarding a grant for using the Internet as an economic development tool. EDA suggested that Pueblo join a partnership.
- 1996** CATI submitted a proposal to EDA for funding the partnership.
- Early 1997** Partnership met for the first time; plans laid for the first mini-grants to small businesses.
- May 1997** Durango held its first small-business WebFair.
- Sept 1997** Pueblo held its first small-business WebFair.
- July 1998** EDA grant ended.
- Sept 1998** Pueblo held its second small-business WebFair.

### **Reference Material**

<http://www.scan.org/scanplex/sbctwww.htm> is the Web page maintained by CATI providing references and resources on the application of Internet technology to small business operations.

<http://www.scan.org/webfair.html> is the Web page maintained by CATI announcing the WebFair held in Pueblo, Colorado on May 29, 1997.

<http://www.scan.org/scanplex/webdev.htm> is the Web page maintained by CATI describing a meeting of web developers and ISPs in Durango on February 17, 1997.

# **Case Study: Smart Permits: A Program by the Joint Venture: Silicon Valley**

Silicon Valley, California

By Robert Lann

## **Overview**

Smart Permit is an initiative of the Joint Venture: Silicon Valley (JVSV) network. The initiative consists of a series of cross-jurisdictional reforms and local investments in digital technology designed to speed the submission and review of building permits. This is most beneficial where rapid building or remodeling of industrial and commercial spaces is a necessary part of business location, expansion, or new product development. Currently, Smart Permit speeds permitting by standardizing permit forms across jurisdictions and by making forms more readily accessible. For the future, Smart Permit is envisioned as a fully electronic permit system, including:

- full access to permits online
- electronic filing and payment of fees
- online scheduling and tracking of inspections
- electronic submission of drawings, with capabilities for reviewers to annotate drawings and return them electronically to the builder.

In addition to reducing costs associated with slow permitting, standardization should reduce errors by permit applicants, because builders only need to learn a single system. Furthermore, having each jurisdiction's permits on the Web should improve regional planning by making it easier for each city to track what is happening in neighboring jurisdictions. Smart Permit also has the potential to improve public input into the permit process by enabling online submission of comments and public tracking of major building projects.

Smart Permit is regional in design, including parts of three counties. However, implementation is undertaken at the municipal level. By 1998, there were six pilot cities (Milpitas, Mountain View, Palo Alto, San Carlos, Santa Clara, and Sunnyvale) out of 30 jurisdictions making up the JVSV.

## **Context and History**

As Silicon Valley recovered from the recession of the early 1990s, local businesses were under tremendous pressure to open new production facilities and bring new products to market. These pressures were especially strong in the region's critical technology sectors, because early market entry can create significant competitive advantages and because products tend to have accelerated life cycles. Convinced that existing procedures for obtaining building permits were slowing product development and production, local industry representatives pressured local governments for reforms.

In 1994, two organizations – Smart Valley, Inc.<sup>30</sup> and the JVSV's Regulatory Streamlining Council – together conceived of what is now called Smart Permit. Smart Valley was the primary sponsor of the initiative during its formative years. In 1995, Anderson Consulting, under Smart Valley's direction, volunteered its resources and produced a Smart Permit prototype using Palo Alto as its pilot city. More than 20 Silicon Valley jurisdictions previewed the prototype and, due to the demonstration's success, began discussing how they could work together. In 1996, some 30 jurisdictions agreed to common standards for permitting documents. In 1997, Smart Valley, Inc. turned over sponsorship of Smart Permit to the JVSV, and regional implementation of Smart Permit began.

## Organization

JVSV is organized as a collaboration between the private and public sectors (with 85 percent private-sector funding). Smart Permit has a steering committee comprising a director, two co-chairs, and 13 other members from the private and public sectors. Each pilot city provides its own resources for planning and implementation of Smart Permit. Eventually the Smart Permit partner cities hope to create fully electronic permit systems where permit applicants can actually file and receive permits online. In the interim, each city is concentrating on those aspects of the Smart Permit program that best meet their particular needs. To promote joint learning, each city presents progress reports to the other participants at monthly meetings.

## The Practice in Operation

Currently, six pilot cities are experimenting with different aspects of the Smart Permit system. All these cities use standardized permit forms that can be retrieved from the Internet, then submitted in person or by fax, and all the cities have their Internet site as a primary point-of-entry into the permit process. Because they have entered the project at different times and are adopting its various elements incrementally, each city is at a different stage in overall implementation:

- Milpitas allows customers to fill out simple online permits for installations of equipment such as water heaters, electric stoves, gas lines, sprinkler systems, furnaces, air conditioners, and lighting fixtures. Forms cannot yet be submitted online, and must be either mailed or faxed.
- Santa Clara, is working with a private contractor to develop a means for public access and input into the permitting practice.
- Palo Alto allows applicants to download permit applications and submit CAD drawings electronically in the vendor's proprietary format.

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<sup>30</sup> Smart Valley, Inc. was an organization of business leaders, community members, government officials, and educators banding together to help jump start Silicon Valley after the 1993 recession. Smart Valley disbanded after five years, its work accomplished.

- Sunnyvale has installed new geographic information system (GIS) software that allows review of the applicant's permit history, tracking of applications and the approval process, submission of CAD plans, and scheduling and tracking of inspections. A new e-commerce front-end is currently in development that will enable customers to make permit payments by credit card over the Internet.
- Mountain View is planning to adopt similar GIS software, and is moving toward a simple permit system like that of Milpita, that will accommodate permit requests for household and small-business remodeling.

For the future, the pilot cities are working to:

- set regional standards for submitting and electronically marking up building plans
- set regional GIS standards
- adopt a system for complete online submission of permits, including online payment of permit fees and registration of digital signatures.

Fremont is expected to be the seventh pilot city and San Jose the eighth. The JVSV still expects to meet the goal of 10 electronic permitting cities by the year 2000.

Robert Cavigli, president of the architectural firm Ehrlich-Rominger in Los Altos and a JVSV board member comments, "Depending on the project's size, it [Smart Permit] can save weeks of time in the permitting process. Anything that can complete projects faster and smarter is an added incentive for companies to remain here and to come here." And the dollars involved in permitting construction in Silicon Valley are not trivial. In 1995, 60,000 permits were issued for 30,000 commercial and industrial projects with a total value of more than \$2 billion.

## **Issues Affecting Program Success**

Several factors have influenced the development of Smart Permit. Progress has been helped greatly by the exponential growth and acceptance of the Internet, as well as by advancements in networking, software, and desktop tools. Smart Permits has also been helped by the successful completion of several local permit improvement projects by Joint Venture's Regulatory Streamlining Council, Silicon Valley cities, and the Silicon Valley Manufacturing Group (which has also published a useful manual titled, *Permitting Best Practices*).

Before JVSV could pursue standardization of permit requirements, building codes themselves had to be standardized. In 1995, 29 Silicon Valley jurisdictions adopted uniform codes and code interpretations as a result of the Silicon Valley Uniform Building Code Program. Due to this effort, the number of code amendments in the 29 jurisdictions has fallen from 400 to just 11.

Another key to success has been the division of effort among cities. No one city has the resources necessary to pursue all aspects of the Smart Permit program simultaneously, so dividing up the work has helped reduce costs and speed development. The possible downside of this approach is that each city depends on the others for its own success. Recognizing this, each pilot city is

required to demonstrate its commitment to the Smart Permit process, including having made the first steps toward electronic permitting before being allowed to join the program.

Despite its initial success, serious technological and institutional obstacles remain to the future development of Smart Permit. A good example is the area of digital signatures, which are necessary for processing electronic documents. The technology has not yet developed to a stage that can be used reliably by JVSU. Also, as Bob Kraiss (director of facilities and real estate at Adaptec, Inc., and a long-time industry representative on Smart Permit's Steering Committee) notes, the use of digital signatures will be severely limited without legislative changes and without the state dedicating a server to store the signatures of all licensed architects. State government has agreed to this and Digital Signature Trust, Inc., is working to make it happen. There are also problems in the area of handling electronic drawings. Vendors, such as Autodesk, Inc. and Tidemark, Inc., are working with various pilot cities to develop Web-enabled software that will allow for architects' drawings to be viewed, edited, and transferred over the Web. Other vendors, such as BlueLine Online, Inc., are working on document management aspects, and Microsoft is working on e-commerce aspects.

## Conclusions

JVSU's Smart Permit Program is most notable for its considerable degree of regional cooperation. Even without an electronic permitting component, the adoption of standardized building codes and permit forms over a rapidly growing three-county area represents a major achievement. As electronic permitting becomes a reality, the benefits of the program can only increase. The immediate economic benefits of these reforms will depend partly on whether community leaders are right that slow permitting is a major constraint on growth. Ultimately, Smart Permit is likely to be as important as a planning improvement and as a means of encouraging public participation as it is for cutting red tape—areas which themselves have long-term economic benefits.

The economic benefits of replicating the program are likely to be highest in areas where (1) industry competitiveness is heavily determined by rapid production changes and (2) those production changes require expansion or modification of physical facilities. The ability to replicate these reforms is partly affected by technological constraints, especially the technological sophistication, staffing, and infrastructure available to the municipalities involved. At least as important, however, is the ability of local communities to cooperate in a common purpose.

## Chronology of Milestones

- |                        |  |
|------------------------|--|
| Fall 1994              | Smart Valley convened a group to discuss what could be done electronically to improve the building permit process. |
| <b>Spring<br/>1995</b> | Anderson Consulting volunteered resources and produced a Smart Permit prototype.                                   |
|                        | The region adopted the system requirements for Smart Permit document.  |

- Fall 1996** San Carlos and Sunnyvale selected as Smart Permit's first pilot cities.
- Led by San Carlos, a buying consortium of 10 cities selected Tidemark Systems of Seattle as the preferred vendor.
- Jan 1997** Smart Permit leadership transferred from Smart Valley to Joint Venture.
- Summer 1997** Sunnyvale completed in-house development of Web-based permit tracking software and went live.
- Fall 1997** The region reached agreement on a Silicon Valley building permit application form.
- Jan 1998** Joint Venture's Smart Permit Steering Committee selected Santa Clara, Mountain View, and Milpitas as the next pilot cities.
- Fall 1998** San Carlos launched the first two online components of the Tidemark permit software.
- Cities reached consensus on standard forms for grading, utility, and encroachment permits.
- Dec 1998** The Smart Permit Steering Committee selected Palo Alto as the sixth pilot city.
- Jan 1999** Milpitas completed its Express Permit system.
- Mar 1999** Sunnyvale, in conjunction with Joint Venture and Multigen-Paradigm, demonstrated a real-time, 3-D computer model of downtown Sunnyvale.
- April 1999** Joint Venture, Sunnyvale, and Microsoft formed a partnership to develop an integrated e-commerce solution for permit systems.
- Fremont selected as the seventh pilot city.
- May 1999** Santa Clara began testing the Blueline-Online Extranet service.
- Smart Permit project received an award for Outstanding Public Technology Program from the Silicon Valley Chapter of the American Society of Public Administration.

## Reference Material

All of these articles can be found on the following Web site:

<http://www.jointventure.org/initiatives/smartpermit/media.html>

"Working Smarter," the *San Jose Mercury News*, November 16, 1997, page 2E.

“Permit Process, like nearly all else, goes online,” the *Business Journal*, October 16, 1997

“On-line permit system unveiled.” the *San Jose Mercury News*, September 26 , 1997, page 1B.

“Streamlined permit process pays big dividends,” the *San Jose Mercury News*, July 23, 1996, page 1D.

“Jurisdiction Joining in Reform,” *Engineering News Record*, January 1997.

“SMART Permitting: A Vision for the Future,” *Facility Management Journal*, May 1998.

“The Smart Way to Get Permits-Online,” *Facilities Design & Management*, March 1998.

“Smart Permit, Smart!,” *Permanent Buildings & Foundations*, February 1998.

### **Web Sites**

<http://www.jointventure.org> is Joint Venture: Silicon Valley Network’s Web site.

<http://www.jointventure.org/initiatives/smartpermit/index.html> is the Smart Permit Web site.

<http://www.city.palo-alto.ca.us/smartpermit/> is the Palo Alto Web site.

<http://www.ci.milpitas.ca.gov/> is the Milpitas Web site.

<http://www.ci.santa-clara.ca.us/> is the Santa Clara Web site.

<http://www.ci.san-carlos.ca.us/building/smartpermit.html> is the San Carlos Web site.

<http://www.ci.mtnview.ca.us/> is the Mountain View Web site.

<http://www.ci.sunnyvale.ca.us/sungis/> is the Sunnyvale Web site.

## **Case Study: Smart Connections Center**

### Aberdeen, South Dakota

By Gordon Kingsley

#### **Overview**

The Smart Connections Center in rural Aberdeen, South Dakota, is an 11,536-square-foot, technologically-equipped business incubator for telecommunications-based businesses. The center distinguishes itself from other incubators by offering services beyond those for entrepreneurs and small companies. The center also furnishes information technology equipment, facilities, and expertise to educators, health care professionals, wholesale and retail businesses, manufacturers, and the general public.

The center is part of a local initiative called Dakota Interconnect that utilizes fiber optic and microwave technologies to connect independent networks, offer high-speed Internet access, and provide facilities for video conferencing. The explicit goal of the Dakota Interconnect and the Smart Connections Center incubator has been to diversify the local economy through upgrading telecommunications infrastructure and developing companies that would be more intensive users of this infrastructure.

#### **Context and History**

The city of Aberdeen, located in northeast South Dakota, relies heavily on agriculture. Over the past 50 years, a loss of farm jobs and lack of job opportunities in other business sectors have contributed to increased out-migration from this region. Aberdeen is home to both Northern University and Presentation College, which collectively produce 700 graduates in business and health care fields annually. However, Aberdeen has been unable to capitalize on this human resource pool due to the lack of employment opportunities for those with college graduate job skills. Also, the closure of a major production plant has added to the region's unemployment problem.

An early stimulus for Dakota Interconnect and the Smart Connections Center was a study conducted by an outside firm in 1992.<sup>31</sup> This study identified a potential market niche for Aberdeen in telecommunications and provided the basic marketing strategy, building design, and employment training strategy. The study indicated that the low costs associated with conducting business in Aberdeen and availability of a high-quality workforce make the region competitive in this industry. However, the report also noted that rural, sparsely populated states like South Dakota face significant challenges in obtaining upgraded telecommunications infrastructure, because private-sector telecommunications companies concentrated their efforts in the densely populated urban areas where access can be provided at less expense per user.

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<sup>31</sup> The study was conducted by Jim Beatty, National Consulting Services (NCS), Omaha, Nebraska.

An informal working group called the Dakota Interconnect Committee took up the study's recommendations. The committee consisted of representatives from many of the same organizations that would eventually become partners in the Dakota Interconnect project. Their working assumption was, and continues to be, that private industry will not automatically provide telecommunications services to rural South Dakota that are available in metropolitan areas. Various committee members worked together on several projects to upgrade the region's telecommunications infrastructure. For example, in 1994, after six months of committee member negotiations with US West and the Public Utilities Commission, US West installed a digital switch in Aberdeen, allowing high-speed data transmission not previously available. With the digital switch also came the availability of ISDN Basic Rate Interface service.<sup>32</sup> Similarly, in 1994 and 1995 Aberdeen installed hardware and telecommunications services for audio, video, and data applications through a project called CityNet.

On October 15, 1995, Dakota Interconnect received a \$900,000 grant from the U.S. Department of Commerce's National Telecommunications and Information Administration to strengthen the region's infrastructure.<sup>33</sup> In 1996, the Smart Connections Center was established as an offshoot of the Dakota Interconnect project.

## **Organization**

A public/private partnership of community and regional organizations implemented Dakota Interconnect under the central administration of the city of Aberdeen. The Northeast Council of Governments (NECOG), an association of city and county governments in northeast South Dakota, coordinated the interests of the partners, prepared the proposal, and administered the grant. The project partners contributed nearly \$1.6 million to Dakota Interconnect. Table 6 lists the project partners.

The Aberdeen Development Corporation (ADC) had responsibility for managing and promoting the Smart Connections Center. ADC is a not-for-profit economic development corporation that oversees the Aberdeen Industrial Park where the center is located. ADC's role in Dakota Interconnect was to provide a building for the Smart Connections Center, market the center, and hire a regional telecommunications access coordinator to work with the center and other partners. A \$500,000 grant from the U.S. Economic Development Administration (EDA) in 1996 funded development of the center.

The ADC provided a building for the Smart Connections Center in the Aberdeen East Industrial Park. The Dakota Interconnect grant furnished equipment for the center and connections necessary to access the Internet and other independent networks.

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<sup>32</sup> ISDN stands for integrated services digital network. Most ISDN lines support two channels that can be simultaneously used for voice and data. Each channel supports data transfer rates of 64 kilobits per second.

<sup>33</sup> Dakota Interconnect was awarded \$900,000 from the Telecommunications and Information Infrastructure Assistance Program (TIIAP) of the Department of Commerce National Telecommunications and Information Administration (NTIA) to begin implementation of the \$2.5 million project.

**Table 6**  
**Dakota Interconnect Partners**

City of Aberdeen	Northern State University
Aberdeen Development Corporation	Presentation College
Aberdeen School District	Roncalli Schools
Brown County	Smart Connections Center
Mid-continent Cable	South Dakota Bureau of Information and Technology
North Central Area Interconnect	South Dakota Public Utilities Commission
Northeast Council of Governments	St. Luke's Midland Regional Medical Center
Northern Electric Cooperative	Student Loan Finance Corporation
Northern Rural Cable Television	Tel Serv Telecommunications

### **The Practice in Operation**

The center has space and equipment for providing small-business incubation services. Roughly 6,000 square feet of the center have been allocated for the incubator. Incubator space includes two private offices and an office equipment room with personal computers and software to access all existing networks. The office equipment room houses a copy machine, fax machine, and scanner.

The center also contains a 1,300-square-foot digital video conference studio available for public use. Local managers have used the facility to hold video conferences with their corporate headquarters and to conduct training programs. The studio equipment allows two-way, full-motion video and voice interactivity with some seven other studios connected to CityNet and North Central Area Interconnect networks.<sup>34</sup> Companies report that the ability to use this equipment has decreased travel costs and communications problems for businesses. In addition, the center has personal computers with Internet access available to the public.

Efforts to market the center have been targeted to Aberdeen-area firms needing video conferencing facilities or incubator space. Marketing activities have included hosting open houses and encouraging placement of news stories about the center. Curiously, there is no significant Web presence for the center either on a stand-alone basis or through the Aberdeen Development Corporation.<sup>35</sup>

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<sup>34</sup> CityNet is a fiber network that allows data, audio, and video connection among local governments, educational institutions, and not-for-profit organizations (such as hospitals). The telecommunications infrastructure for CityNet is provided by Midco. North Central Area Interconnect (NCAI) is a distance learning cluster that connects several school districts, enabling them to share classes and instructors. The school districts that belong to NCAI are Aberdeen, Bristol, Elm Valley, Groton, Hecla-Houghton, Leola, Warner, and Webster.

<sup>35</sup> The most complete site is available through Dakota Interconnect at <http://lupus.northern.edu:90/di>. However, because this project has ended the information is dated.

A regional telecommunications access coordinator oversees the Smart Connections Center's day-to-day telecommunications operation and the marketing of the center's technology. The coordinator also has access to the technical coordinators in the region who operate the various networks and participate in Dakota Interconnect. For communities outside the immediate network wishing to gain access or develop additional networks, the telecommunications coordinator serves as a resource to ensure that these networks can interconnect and exchange information.

Challenges have arisen in attracting technical personnel to fill the coordinator position. When the Dakota Interconnect grant was first awarded in 1995, one partner, the Aberdeen School District, agreed to share its coordinator half time with the center. However, this person took a job in California in early 1996. A second coordinator was located in May 1996 through a different partner. The position was once again split and the person reported half time to the city of Aberdeen and half time to the center.

The Smart Connections Center generates revenue through the leasing of office space and the use of office equipment and the video conferencing studio. In addition, all the partners involved in this project provide resources to the center for ongoing operation and maintenance of the equipment received through Dakota Interconnect.

## **Results to Date**

The Smart Connections Center opened in 1997 anchored by a lease with a major tenant, Vallon, Inc., of Minneapolis. Vallon is a software development company that is launching its NetPropulsion package of pre-designed Web pages through print shops throughout the country. It has recently signed a contract with IBM to provide low-end Web design services for small companies. In its move to the center, Vallon created 30 jobs during the first year.

The partnership also plans another collaboration that emphasizes telemedicine networks. This project will develop two-way interactive connection allowing doctor-to-patient consultation, particularly for specialty services not available at rural health care sites. The partners have applied for a \$750,000 TIIAP grant to develop this \$1.7 million project.

## **Conclusions**

Perhaps the most interesting aspect of the Smart Connections Center is its integration of economic development objectives. By concentrating on information technology industries, the center's incubation efforts leverage the same foundation of communications resources that form the basis of the larger strategy to diversify the regional economy.

The Smart Connections Center's success stems from aligning its long-term goals; available resources; and the local business, government, and education communities. The center has brought together an informal group of organizations that share a common interest in the application of telecommunications technology. They have pursued their aims through several

grants and contracts, obtaining partners according to the particular goals and objectives of the grant application.

The Smart Connections Center's infrastructure promises reliable communications with large urban business centers that are available to the entire community, not just businesses. Aberdeen's experience developing the Smart Connection Center demonstrates how rural communities can ensure that they are equipped to take advantage of advances in telecommunications technologies to provide new opportunities and long-term economic growth.

## Chronology of Milestones

- 1992** Market study recommended that Aberdeen consider diversifying the local economy by building a telecommunications infrastructure.
- An informal working group, the Dakota Interconnection Committee, formed.
- 1994** US West installed a digital switch in Aberdeen.
- 1995** \$900,000 grant awarded for the Dakota Interconnect project.
- Aberdeen Development Corporation agreed to provide a building for the Smart Connections Center in the East Industrial Park.
- 1996** Aberdeen Development Corporation awarded \$500,000 from the U.S. Economic Development Administration to build the Smart Connections Center.
- 1997** Smart Connections Center opened.

## Reference Material

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**Web Sites**

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<http://lupus.northern.edu:90/di/SMARTCEN.htm> is a Web site describing the Smart Connections Center development.

[http://www.aberdeensd.com/html/body\\_industrial\\_park.htm](http://www.aberdeensd.com/html/body_industrial_park.htm) is a Web site describing Aberdeen’s Industrial Park, home of the Smart Connections Center.

# **Case Study: Southern Mississippi Planning & Development District (SMPDD) Internet Site**

Gulfport, Mississippi

By Gordon Kingsley

## **Overview**

The Southern Mississippi Planning and Development District (SMPDD) Web site utilizes the Internet to provide a regional resource for public information and regional economic development services. Representative of similar applications of the Internet to facilitate regional economic development, the SMPDD site provides a full range of geographic and demographic information about the region's counties. The site also facilitates economic development functions such as Internet-based loan applications and processing.

SMPDD developed the site using in-house financial resources and off-the-shelf software. SMPDD hired a recent college graduate who had no Web site development experience to organize and design the site. SMPDD also used a staged approach to site development, starting with basic information about SMPDD and then phasing in county information, maps, and links.

The Internet site improved the accessibility of publicly available information that economic development organizations usually provide via printed material. It also increased the efficiency of district information services and loan processing operations. The initiative enhanced SMPDD's reputation as a technological leader and furthered its relationships with municipal governments.

## **Context and History**

Among Mississippi's 10 planning and development districts, SMPDD has enjoyed a reputation as a technological leader. In the 1970s, it was instrumental in developing the first software for county information systems and has continued to employ advanced technology in its operations. This technological focus, in part, reflects the interests of Les Newcomb, executive director, who has served at SMPDD since its inception. His science background has predisposed him to encourage technological developments.

In the mid-1990s, when the Internet became an increasingly viable public medium, SMPDD desired to lead its region's adoption of the technology. SMPDD wanted to use Internet technology to improve its own services, but also to raise awareness of the technology among local governments that were slow to see the opportunities presented by technology. Many local governments, especially in poorer counties, had very few computers and limited capacity even to connect to the Internet.<sup>36</sup>

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<sup>36</sup> For example, SMPDD does not have access to an ISDN line. For this reason, it contracts with Earthlink to house the Web site for \$25 per quarter. There have been discussions with NASA about maintaining the Web site through its computer facilities.

When SMPDD began developing its Web site in 1995, it aimed to provide a resource for publicly available information in the district and to improve its own economic development functions. The site has been online since 1996.

## **Organization**

SMPDD is one of 10 planning and development districts in Mississippi created by the U.S. Economic Development Administration (EDA) in 1967 as a regional service delivery unit. The not-for-profit 501(c)3 corporation serves 15 counties and 37 municipalities<sup>37</sup> in southern Mississippi. SMPDD has a staff of roughly 100, with headquarters in Gulfport and an additional office in Hattiesburg. The state treats SMPDD as a quasi-governmental body, and the district works closely with the state through the Institutes of Higher Learning (IHL), the Mississippi Department of Economic and Community Development (MDECD), and the Mississippi Automated Resource Information System (MARIS).

SMPDD's major functional areas are business and industrial development, mapping and graphics, information resources, local and regional planning and development, aging services, and human resources. It also implements policies and delivers services through contracts with state agencies and local governments, and these contracts comprise SMPDD's main source of funding. For example, SMPDD helps some localities with business relocation projects and links existing companies with service providers. SMPDD's most recent role has been to advise county and municipal governments on developing their information technologies.

SMPDD's Internet site initiative was developed entirely with in-house staff and budgetary resources. No outside consultants or Web site developers were retained. Instead, SMPDD hired a recent college graduate generally familiar with computers and databases but having no background in Web page development. This person worked closely with the executive director of SMPDD in organizing and designing the site. The site was developed with low-cost off-the-shelf software packages.

## **The Practice in Operation**

SMPDD posted information on its Web site in stages. First, SMPDD put up information about itself and the services it provided. Second, it provided county data that described conditions for business development and tourism. Third, maps of the counties were created using a geographic information system (GIS) software package. Finally, SMPDD established hyperlinks with the state, many of its partner agencies, and forms for information requests and loan applications. Currently, SMPDD is trying to add digital pictures to the site, particularly for business properties and tourism sites.

SMPDD has two audiences for the information on its Internet site. The first audience is the public. The SMPDD Web site provides publicly available information on southern Mississippi counties in a single place. This information includes demographic data, descriptions of the

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<sup>37</sup> The SMPDD service region includes the following counties: Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, and Wayne.

business community, the economic climate, current land values, transportation systems, tourism, and information concerning public services available in each county.

The Web site also provides a public gateway to economic development-related services in southern Mississippi. Companies can apply for various business loans by completing and filing forms online or by downloading the forms and filling them out manually. The site also promotes the area's industrial parks, business sites, and tourism locations.

SMPDD eventually wants the site to include information about its past and present business relocation and existing industry service projects. Plans call for posting complete descriptions of all projects and the resulting costs, outcomes, and benefits. SMPDD envisions that this type of information would give businesses a clearer understanding of what types of services and results are possible, as well as demonstrating that SMPDD pays attention to performance.

The second audience for the site comprises county and municipal governments of southern Mississippi. SMPDD's goal is to visit each county and municipality in its service region and present the potential uses of Internet technology in local government. To fulfill this goal, SMPDD has invested in a \$10,000 portable projector that can display large, high-quality computer images without requiring a darkened conference room. SMPDD also purchased the newest digital cameras to take pictures of business properties and tourism locations because local governments had difficulty providing usable pictures for the SMPDD site.

SMPDD would like each county to develop and maintain information for the Web site. However, most local governments are not connected to the Internet. In addition, some public officials have expressed the concern that SMPDD's plans to post information about business assistance projects could potentially detract from the local government's leverage when negotiating with firms looking to relocate to southern Mississippi.

### **Program Outcomes**

The Web site has attracted attention to SMPDD and its services. As of April 1999, there had been 2,142 visitors to the SMPDD site. Many visitors have used the site to access forms, and some have actually filed business loan applications and other forms online. Although SMPDD could not offer hard numbers, staff believe the site has improved their efficiency in processing requests for information, loan applications, and other services. One problem is that the site has increased the volume of requests for services from individuals or organizations that do not qualify for them, such as requests for business loans from companies outside southern Mississippi, which increases demands on staff resources.

The Web site has added to SMPDD's reputation as an Internet technology resource. Local governments in southern Mississippi have used SMPDD as a reference point for adopting Internet technology. The site also has become an access point for clients to tap into the services of local governments. Both of these facts have increased the credibility of SMPDD as a technology innovator.

The site also has unexpectedly brought the staff closer together. Staff from different departments have had to work closely together because service information spanning these departments is delivered through this single source. However, SMPDD has had difficulty retaining personnel to manage the site. SMPDD has \$30,000 allocated for this position. The person who developed the site was hired by a major corporation at double this salary. Since that time, SMPDD has been unable to fill the position at the available salary.

## **Conclusion**

SMPDD successfully developed Web page applications in-house, taking advantage of low-cost, off-the-shelf software. Through its efforts to develop Web-based applications, SMPDD experienced several service benefits. It compiled publicly available information in one place, which was more easily accessible by residents, businesses, and other interested parties. SMPDD made loan applications available online to businesses, which improved processing efficiency despite the fact that the Web site draws a larger pool of applicants, many of whom do not meet requirements.

SMPDD's efforts to link local county and municipal governments have already enhanced partnerships among the region's local governments. The novelty of Web-based applications allowed SMPDD to position the Web site in a politically neutral way to achieve greater levels of cooperation with local governments.

However, further development of the SMPDD Internet site must overcome some obstacles. Gaining the full participation of local governments will continue to be a challenge, as technological and budgetary limitations, as well as political sensitivity, in county and municipal governments slow participation. Also, the increasing difficulty with retaining skilled staff will hinder future development.

## **Chronology of Milestones**

- |             |   |
|-------------|---|
| <b>1994</b> | Planning began for the new Web site.  |
| <b>1995</b> | SMPDD created Web site at URL <a href="http://www.smpdd.com">http://www.smpdd.com</a> .   |
| <b>1998</b> | Developer of the site left for a higher-paying corporate job.<br><br>Presentations made to the counties describing the benefits of using Internet technology. |
| <b>1999</b> | As of April 1999, there were 2,142 visitors to the site.  |

## **Reference Material**

<http://www.smpdd.com> is the Web site for the Southern Mississippi Planning and Development District.

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## **Innovative Partnerships**

Collaborations are regarded as productive and effective forms of interaction among providers of economic development services and potential users. Partnerships among public and private economic development organizations allow these organizations to exchange information, coordinate services, provide improved referrals, leverage specialized expertise and capabilities, and reach more users. The two cases in this collection profile partnerships among private sector firms, allowing them to share costs, strengths, and risks; reduce isolation; and explore business areas that are otherwise beyond their reach.

### **Appalachian Center for Economic Networks (ACEnet), Athens, OH**

Summary. This economic development organization facilitates the formation of small business networks. The networks provide a mechanism for sharing resources to obtain a variety of business services, in order to enhance the firm's growth and help spur community economic development. Much of the assistance comes from informal and extensive sets of partners.

Lessons Learned. Organizing firms with similar problems into business clusters can offer effective collaborative learning and enables reaching more entrepreneurs with fewer resources. At the same time, it is also important to offer services one-on-one when needed. To sustain these programs, distressed areas must seek funding from sources outside the region.

### **Enterprise Toledo, Toledo, OH**

Summary. Enterprise Toledo is an independent, non-profit organization operated by a coalition of community development corporations and other economic development organizations. The organization facilitates the creation of flexible manufacturing networks (FMNs) among established small business firms in the inner city. These FMNs share information and resources to promote business growth.

Lessons Learned. The project addressed the challenge of championing the expansion of small and medium-sized businesses when the locale was accustomed to business attraction strategies. Project leaders also realized that inner-city businesses must look to the broader region for network partners.

## **Case Study: Appalachian Center for Economic Networks (ACEnet)** Athens, Ohio

By Gordon Kingsley

### **Overview**

The Appalachian Center for Economic Networks (ACEnet) in rural eastern Ohio builds networks of workers, businesses and service providers to create new business and industry that will fuel future local economic growth. Given a region faced with chronic unemployment and severe poverty, ACEnet adopted a strategy that emphasized the development of microenterprises – very small firms of one to five workers – by low-income individuals. To implement this strategy, ACEnet was one of the early users in the United State of flexible manufacturing networks (FMNs).

FMNs involve organizing firms into loose cooperative networks that combine resources to develop joint solutions to common problems, accomplishing more than any single firm could on its own. Firms in FMNs gain knowledge and reduce feelings of isolation, and can achieve economies of scale, acquire technologies and resources, and enter markets that are otherwise beyond their reach. FMNs also offer firms the flexibility to explore new business opportunities.

ACEnet delivers network assistance through its business incubators. It attracts low-income individuals to the incubators to form companies, then encourages these fledgling companies to form networks, although enterprise development is more the desired result than the establishment of ongoing networks. ACEnet facilitates the networks by providing services itself or forming partnerships in an integrated business service network. Many of these services – for example, business planning, market studies, workforce training, Internet and computer services, and a community development venture fund – can be provided through one-on-one assistance. However, offering these services through networks of start-up firms illustrates the value of the network for shared learning, enabling ACEnet to reach more entrepreneurs with fewer resources. ACEnet focuses its efforts on two industries—specialty food products and computer services.

### **History and Context**

ACEnet serves an eight-county region<sup>38</sup> of Appalachia located in southeastern Ohio. Amy Borgstrom, executive director of ACEnet, describes the area in the following manner, “Coal mining and other extractive industries have long since left this region, leaving little economic opportunity, significant damage to the environment, and little hope for thousands of citizens. Historically, the region has the highest unemployment in the state with almost 33 percent of the residents living below the poverty line. Over 65 percent of the high school graduates must leave the area to find employment.”

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<sup>38</sup>The counties served by ACEnet are Athens, Hocking, Meigs, Morgan, Noble, Perry, Vinton, and Washington. The Web site <http://www.seorf.ohiou.edu/~acenet/workplace.htm> provides a summary of the region’s demographics.

ACEnet began in 1984, as a group of Athens, Ohio's citizens interested in identifying ways to stimulate the local economy and strengthen the community. The group supported a few initiatives to build microenterprises with funding from Ohio's Department of Development and the Commission on Religion in Appalachia. In 1985, ACEnet helped organize 12 unemployed restaurant workers into a cooperative worker-owned Mexican restaurant that has since more than tripled its workforce. This successful intervention demonstrated that (1) the specialty food sector offered promising entry opportunities for poor, unemployed workers, and that (2) cooperative networks could be an effective economic development tool.

ACEnet sought to learn more about cooperative networks. It became aware of two basic approaches: (1) the Danish model, which emphasized formal networks and broker facilitation to promote the growth of an already developed economy; and (2) the northern Italian model, which emphasized loose alliances of microenterprises that partnered in some areas and competed in others (Indergaard, 1996). Northern Italy was impoverished, and local government fostered FMNs, as well as stimulating microenterprises and grants awards to community and regional service providers, to develop its regional economy. Because of its similar economic situation, ACEnet found the northern Italy model appealing and sought to implement a similar approach<sup>39</sup> (Rosenfeld, 1995). In 1988, ACEnet received a grant from the Joyce Foundation to develop flexible networks for collaborative economic development.

## **Organization**

ACEnet was created in 1985 as a not-for-profit community economic development organization. It operates with a 15-person staff and an \$800,000 annual budget. Much of ACEnet's funding comes from outside the region. Funding sources include numerous private foundations, as well as federal and state agencies and local governments, as shown in Table 7.

Because microenterprises face a wide range of issues requiring specific services that a single organization alone cannot address, ACEnet also maintains a network of other providers of business services throughout the region to offer a full range of services to its very-small-business customers. ACEnet frequently interacts with and regularly provides referrals to other service providers in the region. It encourages collaboration among service providers to build community assets. As a result, providers deliver services that tend to have consistent messages. ACEnet does not have formal agreements with the partners shown in Table 8.

## **The Practice in Operation**

The typical ACEnet client is a microenterprise that is either just getting started or is looking to expand its business. ACEnet concentrates community services on two targeted industries — specialty food products and computer services. These industries were selected because the costs

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<sup>39</sup> See articles by Rosenfeld or Indergaard for discussions of these two models and how they have been applied in the United States. For a detailed discussion of the northern Italian model of flexible manufacturing networks see (Pyke, 1994)

**Table 7  
ACEnet Sponsors**

Adrian Dominican Fund	Ms. Foundation for Women
Appalachian Regional Commission	Ohio Community Development Finance Fund
Campaign for Human Development	Ohio Department of Agriculture
Commission on Religion in Appalachia	Ohio Department of Development
Ford Foundation	Partners for the Common Good
GTE Corporation	Procter Fund
Heron Fund	Sisters of St. Joseph
Joyce Foundation	U.S. Department of Agriculture
Hitachi Foundation	U.S. Department of Commerce
Kellogg Foundation	U.S. Department of Labor
Mott Foundation	

**Table 8  
ACEnet Partners**

Athens Chamber of Commerce	Marietta Small Business Development Center
Athens County Department of Human Services	Metasystems Design Group
Athens Media Access Center	Ohio University
Appalshop	Rural Action
Association for Enterprise Opportunity	Ohio Small Business Development Centers
Center for Civic Networking	Ohio University Telecommunications Center
Community Foods Initiatives	Tri-County Community Action Agency
Enterprise Development Corporation	Tri-County Joint Vocational School
Hocking College	Women's Business Resource Program
Institute for Local Government and Rural Development	

of entry into the market are relatively low and they match the skill and natural resource base of the region.

Where many firms face similar problems, ACEnet organizes client firms into networks. For example, Accessible Designs, Adjustable Systems, Inc. (AD\*AS) was organized as a for-profit network of seven small businesses that make household products and tools for people with disabilities. AD\*AS has engaged in joint manufacturing, material purchasing, and designing services. AD\*AS has two employees (one jointly employed by ACEnet) who formulate contracts, conduct marketing, and coordinate production times for jointly manufactured products. Another

example is Food Ventures, a looser network of over 100 specialty food firms and service providers. ACEnet organizes collective training programs for Food Ventures and has pursued capital to finance a joint product line involving multiple firms.

ACEnet offers services to individual enterprises as well as to network participants. These services are provided, either directly by ACEnet or through third-party organizations, at ACEnet's two business incubators: the Cooperative Business Center and the Community Kitchen Incubator. FMN participants do not necessarily have to be located in the incubators, however most are. Although ACEnet's services can be provided one-on-one to individual enterprises, these services are critical to network formation as well. They allow ACEnet to identify problems common to a group of enterprises, which can lead the businesses to come together in a network for joint receipt of services. Services include:

- **Information and Marketing.** ACEnet offers workshops on issues facing specialty food markets covering topics such as operating costs, product pricing, safety and sanitation, and packaging and labeling. Support (e.g., financial, knowledge, and equipment) is also offered to help microenterprises attend trade shows and market products on-line.
- **Workforce Development.** ACEnet sponsors vocational and on-the-job training in conjunction with local, regional, state, and federal programs. A frequent partner in this work is the regional community college, Hocking College. Additional training and workforce development programs operate in conjunction with the Women's Sectoral Training and Empowerment Project (STEP), the Computer Opportunities Program (COP), and other organizations. STEP helps women make the transition from welfare to work, and COP trains high school students in computer consultation.
- **Access to Capital.** ACEnet has developed a royalty-based product development fund created with support from the Charles Stewart Mott Foundation and the Hitachi Foundation, which is evolving into a community development venture capital fund. ACEnet also works with the local enterprise development corporation to create "peer loan funds," in which network participants lend to one another. ACEnet has linked several food specialty businesses with a Chicago-based investor interested in the development of new specialty foods.
- **Computer Access and Telecommunications.** To alleviate the cost of obtaining a computer and accessing the Internet for cash-poor poverty-level microenterprise founders, ACEnet leases computers and provides loan and training programs through a community computer center. It also helps microenterprises and networks develop Web pages for marketing purposes through sites such as the Public WebMarket. ACEnet also cosponsors the Southeast Ohio Regional Freenet (SEORF) with Ohio University. SEORF provides the region with low-cost information and communication services.

## Results to Date

To date, ACEnet has served or created over 200 small businesses and microenterprises. Clients have reported that the direct services provided through ACEnet are at least as important to them as their collaborations with other microenterprises.<sup>40</sup> Dozens of individuals have utilized the STEP and COP programs in conjunction with ACEnet's educational partners. These efforts build upon ACEnet's experience in establishing and managing the Community Technology Center and SEORF, which currently has over 6,000 users.

In early 1999, the unemployment rate was 12.6 percent, still much higher than the national average but below historic rates. Although this decline in unemployment partially results from the strong national economy, it is clear that without a program like ACEnet unemployment would be higher.

## Conclusions

ACEnet is a grass roots, community development effort combining distinct economic development strategies to serve an economically distressed region. Taking lessons from the FMNs of northern Italy, ACEnet has concentrated its efforts on developing microenterprises in a poor population with little history of entrepreneurship. Northern Italy's experience taught ACEnet to organize firms with similar problems into business clusters for effective collaborative learning. In fusing these strategies, ACEnet's goal is to stimulate microenterprises and sustain formal business networks.

In serving such an economically distressed region, ACEnet has pursued activities that work locally through community involvement. It provides services both to single firms and to groups and, when necessary, delivers services through its partners. Because of the region's limited resources, it would be very difficult for ACEnet to sustain its programs solely with local resources. Therefore, much of ACEnet's funding comes from outside the region.

ACEnet's community-led efforts are transferrable to other distressed areas of the country. After all, the program's coordinators adopted northern Italy's program of FMNs to an eight-county region of Appalachia.

## Chronology of Milestones

- |             |  |
|-------------|--|
| <b>1984</b> | Study group formed to identify ways to improve the economic health and welfare of the community.   |
| <b>1985</b> | The study group became a community development organization founded by June Holley, later named the Appalachian Center for Economic Networks (ACEnet). |
|             | ACEnet helped organize Casa Nueva Mexican Restaurant.  |

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<sup>40</sup> This was one of the findings of the evaluation conducted by Phillip Shapira for the Joyce Foundation.

ACEnet attracted the financial support of the Ohio Department of Development and the Commission of Religion in Appalachia.

- 1987** ACEnet shifted strategy to broaden the program and offer a larger range of services in the creation of microenterprises. ACEnet focused on Italian-style flexible manufacturing networks (FMNs).
- 1988** ACEnet awarded a grant by the Joyce Foundation.
- 1990** ACEnet moved its offices to Athens, Ohio, which also house its first business incubator, the Cooperative Business Center.
- 1992** The first FMN sponsored by ACEnet was launched.
- 1993** Food Ventures created.
- 1994** Southeastern Ohio Regional Freenet went on-line. ACEnet administers this service with Ohio University.
- AD\*AS awarded a Small Business Innovation Research grant of \$54,000.
- 1996** The Community Kitchen Incubator opened in a new building in Athens, Ohio.
- 1997** The Women's Sectoral Training and Empowerment Project (STEP) instituted to assist trainees in the transition from welfare to work.
- The Computer Opportunities Program initiated.
- The Community Technology Center opened.

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*Facilitating the Formation of Flexible Manufacturing Networks in Rural, Southeastern Ohio: Five Year Report*. 1995

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*Creating High Performance Communities through the Development of Learning Consortia*. 1994

*Access to Capital: A Developmental Approach to Transforming Community Capital Systems*. 1994

*A Market-niche Approach to Microenterprise Development: The Food Ventures Project*. 1993

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*Transformation of Policy in the New World Economy: Networks and Collaborative Program Design*. 1993

*Investigating the Potential Use of Information Technologies by Flexible Manufacturing Networks*. 1992

*Telecommunications Needs of Networked Manufacturing Firms.* 1991

*A Market Driven Approach to Flexible Manufacturing Networks.* 1990

**Web Site**

<http://www.seorf.ohiou.edu/~acenet/main.html> is the Web site describing ACEnet operations. This includes links to additional pages that describe the range of services and collaborations offered and a history of ACEnet.

## **Case Study: Enterprise Toledo**

Toledo, Ohio

By Richard Tate

### **Overview**

Enterprise Toledo (ET) is a recently formed independent, non-profit organization operated by a coalition of community development corporations (CDCs) and other economic development organizations that grew out of a university-based demonstration project involving flexible manufacturing networks (FMNs). ET enables CDCs and other organizations to work together to implement larger-scale economic development programming, including the facilitation of FMNs, throughout Toledo's central city neighborhoods.

FMNs enable firms to share strengths, costs, and risks; however many firms lack the ability and resources to engage in joint endeavors with other firms and require external assistance to encourage network participation. Such assistance is particularly important in the case of the smaller central city firms with which ET is likely to work. In addition, ET encourages collaboration among two or more firms from different industries with complementary needs, in contrast to typical network programs that foster collaboration among firms in the same industry.

An FMN facilitation program under ET will draw on the lessons of the University of Toledo Urban Affairs Center (UT-UAC) Toledo FMN Demonstration Project, which focused on developing networks among inner-city firms. To facilitate FMNs, UT-UAC identified and contracted with community-based brokers who then encouraged firms to participate in networks, facilitated meetings, evaluated firm capacity, conducted market research, explored financing opportunities, and provided other services that supported network initiatives. ET may continue to engage brokers and provide other services to foster FMNs. In addition, ET helps CDCs, networks, and firms obtain business information and research to inform their decision making. ET also is considering targeted industry or sector analyses of the regional economy. These analyses would inform FMN facilitation activities and potentially lead to improved linkages between inner city FMNs and other firms in the region.

### **Context and History**

The recession of the early 1990s hurt Toledo's small and mid-sized manufacturing enterprises (SMEs) and the city's central business district. Manufacturing employment declined by 13 percent between 1989 and 1991. The inner city experienced many of Toledo's plant closures and downsizings, and was left with a deteriorated infrastructure and lack of skilled labor. Inner-city businesses felt that city and regional economic developers were ambivalent about their needs. For example, many of Toledo's SMEs were small suppliers to automobile manufacturers in nearby Detroit and other large manufacturers elsewhere in the region. These SMEs were concerned about losing business because of supplier certification requirements such as ISO 9000 and QS-9000. They felt that economic development and assistance organizations were focusing most of their resources on large corporate relocations in suburban areas.

In the early 1990s, UT-UAC established the Working Group on Neighborhoods to address issues affecting the inner city. (Shapira, 1996) Many working-group participants came from community development corporations (CDCs) that in the past worked to increase affordable housing to solve the city's economic development problems. The CDC participants realized that broader economic development issues must also be addressed to deal with existing industry concerns. Working-group participants became aware of the efforts of neighboring Appalachian Center for Economic Networks (ACEnet) to promote flexible manufacturing networks (FMNs) and thought FMNs might help Toledo's SMEs with some of their problems.

In fall 1992, UT-UAC received assistance from ACEnet through a \$50,000 grant from the Ohio Department of Development.(Shapira, 1996) This was supplemented by a \$25,000 grant to UT-UAC from the Joyce Foundation in 1993 to research the feasibility of employing FMNs in the Toledo area. In June 1993, with ACEnet's assistance, UT-UAC organized and held meetings with the Ohio Port Authority (responsible for regional economic development), the Toledo Economic Development Department, CDCs, and other business entities to present the concept of FMNs. From these meetings, UT-UAC formed an FMN leadership team.

The leadership team decided to try out FMNs in a demonstration project. UT-UAC modified the ACEnet model, which was based on start-up enterprises, to target a small number of inner-city Toledo firms, and marshaled inner-city service providers (e.g., CDCs, existing business assistance programs, and government agencies) to encourage these firms to form FMNs. With the support of a Joyce Foundation grant, UT-UAC implemented its FMN demonstration project in 1994.

The UT-UAC contracted with several brokers with business backgrounds to market the FMN project to manufacturers, facilitate meetings, and provide other assistance. Three FMNs that emerged through the process are now dormant. However, two FMNs developed into ongoing networks: the Avalon Super-Supplier Network and Technoflex Medical Products Group.

The Avalon Super-Supplier Network consists of nine small Toledo-based manufacturing firms in diverse industries whose goal was to supply large automobile companies with parts. The network received support from a UT-UAC contract broker who marketed the network to other firms, facilitated meetings, evaluated firm capacity, conducted market research, and explored financing opportunities. Through a lead firm, the network established a business relationship with Avalon Material Handling, a vendor-supplier in Detroit, Michigan with QS-9000 certification and in-house engineering—both of which were attractive to large automobile companies.

Technoflex is a limited liability business currently developing a prototype product to assist women with incontinence problems. Four Toledo-based partners are involved in the FMN, including a nurse practitioner, an engineering firm, a company that manufactures sanitary products, and a medical products company. The UT-UAC contract broker facilitated meetings, conducted research related to testing requirements of the U.S. Food and Drug Administration, and developed contacts with medical researchers. At the end of the demonstration project, Technoflex was assessing the market and contemplating a clinical trial.

According to a 1997 survey of firms in these networks, few firms reported existing sales increases, profitability increases, or new customers, but future expectations were high. Almost half expected increased sales and two-fifths anticipated new customers and improved profitability within two years after the survey. Survey results also indicated few immediate impacts on jobs saved and created or skills improved; but, as with business impacts, firms expected these to occur within two years after the survey.(Shapira, 1996)

When the FMN Demonstration Project ended in 1996, UT-UAC had hoped to transfer the “project framework” to another sponsor. In search of alternative program support, UT-UAC submitted a Community Outreach Partnership Center proposal to the U.S. Department of Housing and Urban Development (HUD) that introduced the expanded Enterprise Toledo concept for the first time. This proposal failed to receive funding, and efforts to carry the process forward languished for the better part of a year.

In late 1997, Toledo hired a new economic development director who was an officer of the Council for Urban Economic Development. He became an early champion for ET and won the support of the Toledo city council. Community leaders eventually secured funding from HUD to finance ET operations.

## **Organization**

Formed out of the Toledo Neighborhood Business Alliance, ET is governed by an elected board of directors. The ET board currently has 13 members, including one community development corporation (CDC) that is pursuing the development of a flexible training network to service its high-tech business incubator, and two associate members: the Local Initiatives Support Corporation and UT-UAC. ET is managed by four officers (president, vice president, secretary, and treasurer) elected in January 1999.

Current ET funding includes \$2.5 million from HUD 108 loans to seed an ET Economic Development Loan Fund and a \$300,000 HUD Economic Development Initiative (EDI) grant for operations and HUD 108 loan loss reserve pool.<sup>41</sup>

## **The Practice in Operation**

ET began operation in early 1999. While ET hopes to include FMN facilitation, its efforts to date have focused on getting start-up funding and selecting a board of directors and officers. Other start-up activities include reviewing the experiences of the FMN project, preparing for a strategic planning session in the summer of 1999, and ensuring that FMNs are part of the city’s economic development policy.

As in the FMN demonstration project, UT-UAC will work with ET to develop a continuing FMN facilitation program that may draw brokers from regional economic and community development

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<sup>41</sup> Section 108 is the loan guarantee provision of the Community Development Block Grant (CDBG) program administered by HUD. Section 108 provides communities with a source of financing for economic development and other large scale physical development projects.

organizations such as CDCs. Such an FMN facilitation program will need to identify ways to build links among member firms and between the network groups and potential customers and government and business assistance organizations. In addition, it will need to organize network meetings and marketing initiatives for network groups. UT-UAC will continue to provide research and policy assistance through feasibility studies, establishing databases, and conducting project documentation and evaluation activities.

Based on the success of the Avalon Super-Supplier Network, UT-UAC has learned the importance of expanding FMN activities to link central city firms with companies across the region. This requires a solid understanding of the regional economy, and UT-UAC intends to participate in the targeted industry studies and industry cluster analyses to gain a better understanding of the regional economy. This information will be useful in guiding the development of FMNs, the services they need, and linkages with firms outside the Toledo inner city.

## **Conclusions**

The UT-UAC FMN Project learned that networking among firms can help expand business opportunities for small and medium-sized firms in inner city neighborhoods, but inner-city businesses cannot operate within a closed system. They are part of an increasingly regional economy. Development of inner-city business networks is contingent upon including suburban and regional businesses, as illustrated by the Avalon Super-Supplier Network collaboration with a Detroit-based firm. Such a regional perspective would also be consistent with ET's efforts to foster larger-scale economic development programming.

One challenge for ET is to champion FMNs in an economic development environment which, like that of many cities, is accustomed to business attraction strategies. Toledo's FMNs have yielded few short-term business results, and more widespread business results may be required to maintain the FMN initiative

## **Chronology of Milestones**

- |                    |  |
|--------------------|--|
| <b>Early 1990s</b> | Urban Affairs Center at the University of Toledo (UT-UAC) established the Working Group on Neighborhoods.                  |
| <b>Fall 1992</b>   | ACEnet received a \$50,000 grant from the Ohio Department of Development to mentor UT-UAC efforts to start FMNs in Toledo. |
| <b>Early 1993</b>  | Additional \$25,000 grant from Joyce Foundation supported research with inner-city firms to identify issues and problems.  |
| <b>1994</b>        | FMN Demonstration Project implemented. Two successful FMNs emerged.  |
| <b>August 1997</b> | Final grant report for FMN Demonstration Project completed.  |
| <b>Late 1997</b>   | Toledo hired new economic development director.  |

- Mid-1998** Massive local effort to keep Jeep manufacturing plant focused community leaders on securing a HUD 108 loan. CDCs introduced ET as part of the HUD loan request.
- Late 1998** HUD loan of \$2.5 million along with HUD EDI grant of \$300,000 approved to seed the ET Economic Development Loan Fund.
- January 1999** Board of directors and officers for ET selected.
- February 1999** ET applied for non-profit status.

## Reference Material

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“Industrial Retention and Expansion Survey of Firms Located in Toledo’s Industrial Core,” The Urban Affairs Center, University of Toledo, October 15, 1997 (Revised January 26, 1998).

*Manufacturing Communities: A Neighborhood Based Urban Flexible Manufacturing Network for Toledo, Ohio.* Final Grant Report to the Joyce Foundation, August 13, 1997.

“Community-Based Restructuring: Institution-Building in the Industrial Midwest,” a paper by Michael Indergaard, Department of Sociology and Anthropology, St. John’s University and Consultant to the University of Toledo Urban Affairs Center, February, 1996. (subsequently published in *Urban Affairs Quarterly*)

“Making Networks, Remaking the City,” by Michael Indergaard, *Economic Development Quarterly*, Vol. 10, No.2, 1996, pp. 172-187.

*An Evaluation of Flexible Manufacturing Networking Projects Sponsored by the Appalachian Center for Economic Networks, Athens, OH, and the University of Toledo, Urban Affairs Center, Toledo, OH,* October 15, 1996. (Collaborative Networking Projects Evaluation Study directed by Phil Shapira at the Georgia Institute of Technology).

# Appendices

## Appendix 1: Interview Protocol

The following is the protocol used to interview promising candidates for the final set of innovative practices.

1. What is the practice and how does it presently operate?
2. Is the practice a new approach in any of the following economic development areas?  
(If yes, probe for details to verify any innovative aspects of the practice.)

### Enterprise / entrepreneurial development

**PROBE** => How does the practice differ from:

Industrial incentive programs to attract industry?

Government programs to help new businesses?

Incubators or other centers aimed at providing business services?

### Capital or financial availability

**PROBE** => How does the practice differ from:

Efforts to stimulate traditional venture capital activity?

Recruitment tax incentive plans?

### Infrastructure improvement

**PROBE** => How does the practice differ from:

Industrial park projects that build to suit certain industries?

Locality development efforts to improve roads and other public services?

### Workforce development

**PROBE** => How does the practice differ from:

Quick-start types of programs used as an incentive for relocation?

Basic skills training programs?

Job matching programs linking recruiters with job seekers?

- 3a. What are the direct economic development goals of this practice?

G Stimulate private investment

G Attract new industry

G Stimulate growth of existing business

G Stimulate entrepreneurial activity

G Upgrade workforce skills

G Improve economic development capabilities of ED organization (Process goal)

G Revitalize local environment for business

G Ensure sustainable local economic development

G OTHER, Please describe

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- 3b. How does the practice set out to accomplish these goals? (i.e., How do you do it?)
- Make funding available for new or existing business investment
  - Provide training to local workforce
  - Conduct research on local labor market, supplier base, etc.
  - Provide "One-stop" business services to local companies (meeting all needs of a company from funding to training)
  - Market community assets to industry
  - Provide incentives for relocation
  - Develop infrastructure supporting development (e.g. a business or industry park)
  - Expand export markets for local business
  - Improve local environment (e.g. improving roads or other public resources)
  - OTHER, Please describe
- 
- 

4. Does this practice employ a new technology or technique to deliver economic development services more efficiently or effectively?
- Yes  No (If yes, please describe)
- 
- 

5. Would you characterize this effort as a public/private partnership? If yes, what types of organizations are involved in this practice, including your organization?
- Chamber of Commerce
  - City or County Economic Development Agency
  - Other local public economic development agency
  - Non-profit economic development organization
  - Private economic development company
  - Regional development authority
  - State economic development authority
  - Other state agency
  - Private company
  - Industry consortium
  - University
  - Community college / Technical school
  - Banks
  - OTHER, Please describe
- 
-

## Appendix 2: Contacts

Practice	Contact Information
Appalachian Center for Economic Networks (ACEnet), Athens, OH	Amy Borgstrom, Executive Director, ACEnet, 94 N. Columbus Rd., Athens, OH 45701, (phone) 740/592-3854, (e-mail) amyb@seorf.ohiou.edu Web site: <a href="http://www.seorf.ohiou.edu/~acenet/main.html">http://www.seorf.ohiou.edu/~acenet/main.html</a>
Chattanooga: A Decentralized Approach to Sustainable Development, Chattanooga, TN	Jim Kennedy, Chief Executive Officer, Chattanooga Area Chamber of Commerce, 1001 Market Street, Chattanooga, TN 37402-2690, (phone) 423/756-23515, (fax) 423/267-7242, (e-mail) jkennedy@chattanooga-chamber.com. Jim Bowen, Jill Kidder, and John Clark offered information about RiverValley Partnership and its riverfront, downtown, and southside redevelopment projects. They can be reached at RiverValley Partners, Inc., One Central Plaza, Suite 800, 835 Georgia Avenue, Chattanooga, TN 37402, (phone) 423/265-3700, (fax) 423/265-7924, (e-mail) jkidder@rivervalleypartners.com. Connie Eilbeck, who provided information about the SMART Park, can be reached at The Chattanooga Institute, 1001 Market St., Chattanooga, TN 37402, (phone) 423/266-0521, ext. 165 (fax) 423/266-1682, (e-mail) ceilbeck@csc2.org. Web site: <a href="http://www.chattanooga-chamber.com/submains/newsbur/nwsbur.html">http://www.chattanooga-chamber.com/submains/newsbur/nwsbur.html</a>
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City of Kalamazoo Brownfield Redevelopment Initiative, Kalamazoo, MI	Richard Goff, Director of the Economic Development and Planning Division, City of Kalamazoo, 241 W. South Street, Kalamazoo, MI 49007-4796, (phone) 616/337-8362, (fax) 616/337-8182. Web site: <a href="http://www.theforum.org/cur/">http://www.theforum.org/cur/</a>
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City of Vallejo Economic Development Information System (VEDIS), Vallejo, CA	Anatalio Ubalde, Community Development Analyst, City of Vallejo Economic Development Division, 555 Santa Clara Street, 3 <sup>rd</sup> Floor, Vallejo, CA 94590, (phone) 707/648-4442, (fax) 707/648-4499, (e-mail) ubalde@ci.vallejo.ca.us. Questions about the development of this program should be directed to Pablo Monzon, Principal, GIS Planning, Inc., <a href="http://gisplanning.com">http://gisplanning.com</a> , (phone) 877/293-2447. Web site: <a href="http://www.ci.vallejo.ca.us/ed.html">http://www.ci.vallejo.ca.us/ed.html</a>

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Focus: HOPE Workforce Programs, Detroit, MI	Ken Kudek, Assistant Director or Brad Maze, Assistant to the Executive Director, Focus: HOPE, 1355 Oakman Boulevard, Detroit, MI 48238, (phone) 313/494-5500, (fax) 313/494-4340 Web site: <a href="http://www.focushope.edu/html/home_menu.html">http://www.focushope.edu/html/home_menu.html</a>
Golden Belt Business Education Service Center, Durham, NC	Jonathan Gemmen, Economic Development Associate, Greater Durham Chamber of Commerce, P.O. Box 3829, 300 W. Morgan St., Durham, NC 27702, (phone) 919/682-2133, (fax) 919/688-8351, (e-mail) jgemmen@durham.chamber.org. Web site: <a href="http://www.herald-sun.com/dcc">http://www.herald-sun.com/dcc</a>
Grant County Economic Development through the Internet, Fennimore, WI	James Schneider, Executive Director Grant County Economic Development Corporation, 1800 Bronson Boulevard, Fennimore, WI 53809, (phone) 608/822-3501, (fax) 608/822-6019, (e-mail) jschneid@grant.tds.net Web site: <a href="http://www.grantcounty.org">http://www.grantcounty.org</a>
Huntington Industrial Center, Huntington, WV	Judy Rose, Department of Planning and Development, City Hall, P.O. Box 1659, Huntington, WV 25717, (phone) 304/696-4426. Web site: <a href="http://www.hud.gov/cpd/ezec/wv/echuntin.html">http://www.hud.gov/cpd/ezec/wv/echuntin.html</a>
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